AMERICAN BEE JOURNAL

49th Year

No. 12

DECEMBER
1909

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

146 W. Superior St., Chicago, Ill.

IMPORTANT NOTICE.

THE SUBSCRIPTION PRICE of this Journal is 75 cents a year, in the United States of America, (except Chicago, where it is $1.00), and Mexico; in Canada 85 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec09" on your label shows that it is paid to the end of December, 1909.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 15c.

14 lines make one inch.

Nothing less than 4 lines accepted.

DISCOUNTS:

3 times 14c a line 9 times 11c a line
6 " 12c " " 12 " (1 yr.) 10c a line

Reading Notices, 25 cents, count line.

Goes to press the 6th of each month.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their awful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Books for Bee-Keepers

Have you a good bee-book? Many bee-keepers do not have. And that is where they make a big mistake. A bee-paper cannot take the place of a good bee-book. The paper is a splendid thing to read *in connection with the book.* On another page we make some generous clubbing offers of bee-books with the American Bee Journal.

American Bee Journal

American Bee Journal

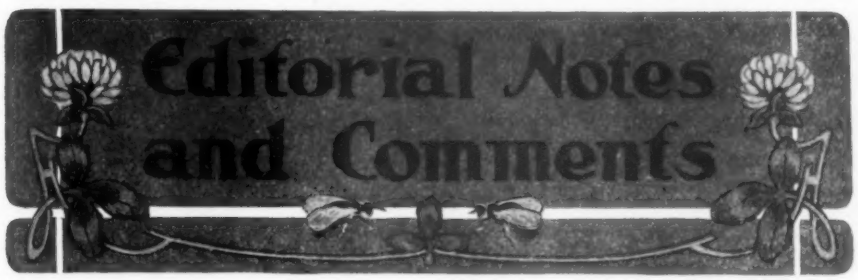
(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at 75 cents a Year, by George W. York & Company, 146 West Superior Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., DECEMBER, 1909

Vol. XLIX---No. 12



Merry Christmas — Happy New Year

The blessed Christmas time will soon be here again—the season of gifts, gladsomeness and joy. "Ye editor" wishes for all the readers of the old American Bee Journal the very merriest Christmas of all their lives.

And then the New Year—**1910**—is only about two weeks away. How rapidly the years come and go. And with them come, oh, so many changes! Dear ones that were with us have been taken away; reverses and losses have come to some; to others the years have brought happiness and prosperity. But the New Year bids us look ahead, and not to regret the past. We need to brace ourselves for the future and its increasing duties. Let us all hope that there may be brighter days just ahead for the discouraged and disheartened; more contentment, peace and cheer for the worried and fretted; and a larger, richer and more successful experience for us all. Again "Ye Editor" has for each and every one—

A New Year's Wish:

"A bright New Year, and a sunny track,
Along an upward way;
And a song of praise on looking back
When the year has passed away;
And golden sheaves—nor small, nor few—
This is my New Year's wish for you.'

The Winter Brood-Nest

An interesting discussion is on between Gleanings and The Canadian Bee Journal. Speaking of feeding late to such an extent as to have no empty cells, Gleanings says:

"Such a condition is not according to nature; and one can readily see that a bunch of bees, no matter how large, that is separated by slabs of solid honey or syrup cannot keep as warm as where the combs are empty and the bees can crawl into the cells, thus establishing bodily contact heat between several divisions of the bees separated only by the midribs in the combs."

But The Canadian doesn't "readily see" it, and says:

"To our mind it does seem unreasonable to suppose that bees cannot cluster on combs full of honey. We have been laboring under the impression that this was the ideal condition. * * * Bees clustering on empty combs and going off at intervals to feed on cold honey is an idea that is difficult for us to accept."

The question really at issue is whether part of the bees of a good colony in winter enter the empty cells so as to be nearer together to keep warm, or whether, as The Canadian hints, bees only occupy these empty cells when starved to death. If this question be settled in a positive manner one way or the other, the discussion will have served an excellent purpose.

Important Factors in Bee-Keeping

John Silver, in the Irish Bee Journal, quotes W. L. Coggshall as considering "locality to be the first consideration, the man second, the bees third, and the hive fourth." Mr. Silver would place the four factors in the following order of importance: Locality, bees, man, hive. Probably most would agree with these two men in putting locality (or pasturage) at the head of the list, and the hive at the foot. Whether to consider the man or the bees the more important factor is a matter not so easily settled.

The question might be put in this form: Which will bring the better results, a good bee-keeper with a poor strain of bees, or a poor bee-keeper with a good strain of bees? It is plain that before we can have a definite answer we must have some definite notion as to the difference there is between a good and a poor bee-keeper, and also between a good and a poor strain of bees. When we come to deal with the question in that light, we see at once that we are dealing with factors that are varying quantities. There are all grades of bee-keepers, from very good to very poor, and the same may be said of bees. For the sake of having something definite, we might assume that with the same bees a good bee-keeper would get 50 per cent more honey than a poor bee-keeper; also that under the same management a good strain of bees would gather more honey than a poor strain. In that case the good bee-keeper with the poor bees ought to get the same amount of honey as the poor bee-keeper with the good bees.

Looks a little as if the right answer might depend upon whether there is more difference in men or in bees. That may vary in different regions, so it is possible that both Mr. Coggshall and Mr. Silver are right, each one for his own locality.

After all, the important point for the beginner is what he can do to improve one or all of these factors; and very likely his first question will be, "Which one can I do the most to improve?" Improvement of locality is more or less out of the question; the bee-keeper seeks a good location, and then does very little to make it any different. If it is difficult to make any difference in pasturage, it certainly is not difficult to make a difference in hives, and it is nothing unusual for the beginner to think that because it is so easy for him to make something different it is easy to make something better. As he becomes seasoned, however, he wisely concludes that it isn't so easy as he thought to make a better hive than any already made; and so his chance for improvement is limited to improving the bee-keeper and the bees.

Very likely it is of more importance to improve the bee-keeper; and this will be done in every way possible, by close

American Bee Journal

observation and study of books and bee-papers, by attendance at conventions and conferring with other bee-keepers—in short, by every means within his power;—but that is no reason he should wait until he becomes a thoroughly improved bee-keeper before he attempts improvement of his bees. Just as soon as he has more than one colony of bees let him begin to take careful note of what each colony does, and then persistently breed from the best.

Let it, then, be the ambition of every beginner to be not merely a bee-keeper, but to be one of the very best of bee-keepers, and to have the very best bees it is possible to possess. This will tend to the highest enjoyment in the business, and at the same time to the highest financial reward.

The National Election Result

The election by mail-ballot, of the National Bee-Keepers' Association, was held as usual during the month of November. As reported to us by the General Manager, this is the result:

PRESIDENT—George W. York, of Chicago.
VICE-PRESIDENT—W. D. Wright, of Altamont, N. Y.
SECRETARY—Louis H. Scholl, of New Braunfels, Tex.
GENERAL MANAGER AND TREASURER—N. E. France, of Platteville, Wis.
DIRECTORS (3 elected each year)—J. E. Crane, of Middlebury, Vt.; E. F. Atwater, of Meridian, Idaho; and R. A. Morgan, of Vermillion, S. Dak.

The president-elect wishes to express his deep appreciation of the high honor conferred upon him, and the confidence reposed in him, in this election for the third time to the presidency of the National Bee-Keepers' Association—the largest organization of bee-keepers on this continent. It has now something like 3500 in its membership. In 1896 he was first elected president (at Lincoln, Nebr.), and re-elected in 1897 at Buffalo, N. Y. He hopes, if possible, with the earnest co-operation of the officiary and the rank and file, not only to have the biggest and best annual convention of bee-keepers in 1910, but to increase the membership during the next year (Shall it be to 5000?), and also to make the National Bee-Keepers' Association of larger benefit to all beedom than it has ever been in its existence of 40 years. Will not all join in such efforts, and thus help to establish the business of bee-keeping upon a firmer and more enduring foundation than it has today?

Getting Honey Out of Cappings

Some put the cappings in a solar wax-extractor, and when the melted product cools, the wax and honey will be separate. But there is some danger that the honey may have a cooked taste. It is a common practise to put the cappings in a barrel or other vessel with cotton-cloth or wire-cloth in the bottom, through which the honey slowly drains, the honey thus obtained being of best quality, provided honey of best quality was in the comb. But this leaves still a considerable amount of honey adhering to the combs. Nearly all of this can be drained out by giving it a little time in a damp cellar, the thin drippings being used to make vinegar. J. A. Crane has a plan by which the least remnant may be got out after being drained, or the whole cleaned up without any previous draining. He says in the Bee-Keepers' Review:

After my cappings have drained all they will, I jam them into kegs or large 6-gallon pails, and turn them on their sides with the top over a telescope cover or large box, out-of-doors or in an open building. The bees work them over, and they fall into the box; and when the bees leave them they are as dry as bran; and, to my mind, in much better shape for melting; and the bees have the honey, which is of little value if cooked up with the wax. Of course, a barrel would need quite a large box, and the bees would take quite a while to dig it all out, and, as with a large keg, it would hasten matters a bit to give the barrel an occasional turn so as to get the bulk of the cappings on the upper side.

Eggs Delayed in Hatching

D. M. M. reports in the British Bee Journal, that the past season was unusual in having such changes of temperature a number of times that the cluster of bees of the brood-nest shrank, leaving the larvæ out in the cold to perish; but when the cluster expanded with the warming up of the weather, the eggs that had been left out in the cold hatched out all right. Careful watching showed that "apparently these eggs had been lying inert for about 3 weeks."

Dzierzon reported the same thing, although the case he reported was not from force of circumstances, apparently, but from volition on the part of the bees. Probably delay in hatching out eggs is not very uncommon, although under ordinary circumstances it necessarily escapes observation. The careful observer will perhaps not fail to have noticed that sometimes, when a queen has been removed, quite a few cells of unsealed brood will be found present in the hive 10 days or more after her removal, although normally all brood should be sealed in 8 or 9 days.

Larger Cells and Larger Bees

In Prakt. Wegweiser, mention is made of larger cells than common being used in comb foundation by the French Abbe Pincot. Instead of 5 cells to the inch, there were 4.53. Larger bees resulted, and from 30 colonies of these larger bees he harvested just about 50 percent more than from 31 colonies having bees of the usual size.

It seems a little strange that in this country so little attention has been given to the size of bees. Years ago A. I. Root conceived the idea of getting increased size by using foundation with cells much larger than the usual size. The bees seemed not to understand fully what was required of them, and used a good many of the cells as drone-cells. The experiment was given up as a bad job. If, instead of such large cells, Mr. Root had used cells just a little larger than ordinary, the result might have been different. At one time a Florida bee-keeper had bees considerably larger than usual, so that the natural comb built by them was perhaps midway between worker and drone-cells in size.

There can be little doubt that the size of bees may be increased. But will more honey be secured from an apiary of these larger bees? The single instance given points plainly in that direction, but one swallow does not make a summer. Perhaps the thought that nothing is to be gained by increased size has prevented effort in that line, and it is quite possible that there would be no real gain.

Piping and Quahking of Queens

Although constant advance is being made in bee-culture it is doubtful whether bee-keepers at large have at the present time as much practical knowledge of the noises made by a queen as they had 50 years ago. Nothing strange about this, since these noises are generally connected with swarming, and nowadays a very large number of bee-keepers try their best to have no swarming occur.

One of the brightest young practitioners shows lack of a working acquaintance with the notes made by queens, when he says in an agricultural paper, speaking of the piping of queens:

"This is a sound that few people hear, but it is easily heard if the right time is chosen. It resembles the note of the katydid more than anything else, though it is neither so long nor so loud.

"This noise is made by the young queens while still in their cells. It is the war-cry of hostile forces."

No hint is given as to more than one tone, and yet the quahking of a queen is something quite different from piping, and more queens may be heard quahking than piping. Instead of the piping being "made by the young queens while still in their cells," a queen *never* pipes while in the cell. Piping is the note made by a queen that is out of the cell, *quahking* is the noise made by a queen that has not yet emerged from her cell.

To this some one may reply, "It seems hardly worth while to have two names for the same thing, for the only difference between piping and what you call quahking is that the latter is more muffled because the queen is in the cell." Any one who has such a belief would do well to allow at least one natural swarm so as to have a chance to hear for himself the piping and quahking. Go to the hive in the evening, after the bees have stopped flying, about 8 days after the prime swarm has issued, perhaps an evening or two before this, perhaps one or more after, put your ear to the hive and listen. At first you may hear nothing but a confusion of noises of different kinds made by the workers, but in a very short time the piping will be easily distinguished from all other sounds, louder and clearer, so that you may even hear it sometimes a few feet away from the hive. Immediately after the piping you will hear a queen quahking—more likely several queens will respond by quahking. Do you recognize no difference except that the responding tones are muffled? Listen again, and note the length of the tones. The queen that pipes makes first a long note, much longer than any note of quahking, immediately a note of the same kind a little shorter, and each succeeding note shorter until the close. In contrast with this the sounds of quahking, while coarser, seem more hurried, and of pretty much

American Bee Journal

the same length throughout. No, after listening once for yourself you will never make the mistake of thinking that quahking is the same as piping only more muffled.

A queen never quahks after she emerges from her cell. She may—perhaps always does—begin piping as soon as she leaves her cell, and probably keeps at it by spells until satisfied no rival is in the hive; she may pipe, from fright or for some other cause, after she becomes a laying queen, she may pipe when in a cage out of the hive, but she never pipes before emerging from her cell.

Probably no one ever saw a queen quahking; a queen may easily be seen piping. Open the hive in which a queen is piping, and try to locate her. Then listen for the next piping, and it may be in a different part of the hive, for a piping queen is a rapid traveler. Lift out the frame on which she is running, and directly she will stop, hugging down close to the comb, and her whole body will quiver as she makes the piping noise.

Queen Stings a Drone

The rule that a queen will sting only another queen has so few exceptions that it falls to the lot of few bee-keepers to meet the exceptions. Once, and once only in nearly 50 years observation, the writer saw a virgin queen sting a worker. Now comes a report of probably the first case on record of a virgin stinging a drone. Paul Waetzel, in Praktischer Wegweiser, says that he held in his hand a frame on which there was a queen-cell. While the frame was still in his hand the virgin emerged from the cell, and the bees immediately grappled with the queen, which in her turn grappled with a drone that became mixed up in the row, curved her body and stung him in the thorax, and within 15 seconds he was dead.

Are such occurrences accidents, or how are they accounted for?

Foul Brood and Saliva

Anent the matter of foul brood in human saliva, this question was asked in these columns:

"Why should one be spitting in a hive, unless a tobacco-chewer?"

The Irish Bee Journal replies:

"But this is to assume that infected saliva, or infected honey either, is harmless scattered about the apiary, and unless 'in the hive,' with which assumption no one will agree."

Which, again, Editor Digges is to assume that one must be spitting somewhere while in the apiary, either "in the hive" or out of it, with which assumption no one will agree—at least "in this locality." However it may be in Ireland, a bee-keeper in this country, unless he be addicted to the weed, while in normal condition never thinks of spitting while working in the apiary all day long.

You say "infected saliva, or infected honey, either." Now by what right, legal or moral, do you assume that even if one does assume that infected saliva is harmless scattered about an apiary, such assumption also involves the assumption that infected honey scattered in the same way is harmless? By what right, sir?

And just because we are not to be spat down by an Irish editor while so far away, nor to be bullied out of our rights to free opinion, we boldly assert (with a very faint interrogation mark attached) that infected saliva, scattered about an apiary, is harmless, since no self-respecting bee goes about seeking what it may pick up in the way of nastiness. So, there!

Increase at Extracting Time

E. Shicketanz reports in Praktischer Wegweiser a somewhat novel plan of proceeding. He secures a new colony from each 6 or 7 colonies he extracts from, and at the same time avoids the unpleasantness of having the air filled with a lot of cross bees that have been swept from the extracting combs.

A tin funnel is made, not in the usual circular form, but long enough and wide enough to have the bees from a comb shaken or brushed into it, this funnel being fastened into a hive-cover. A hive has its entrance closed with wire-cloth, and in it is put frames of foundation or whatever may be deemed best for the new colony, and over this is placed the cover with its funnel. The hive is thus made bee-tight, except for the narrow slit in the funnel. As each extracting-comb is taken from its hive, the bees are brushed into this funnel, until 6 or 7 colonies have been operated on. Then it is placed on the stand where it is to remain, the cover with the funnel removed, and an ordinary cover quickly placed over. Of course it has been furnished with a sealed cell or a queen, and generally a queen will be kindly received if dropped into the funnel with the bees. The entrance may be opened at once upon the hive being placed upon its stand, or the entrance may be left closed for some time, according as it is desired to have more or less of the older bees remain on the new stand. During the brushing, a pail of water stands conveniently by, and if at any time the bees begin to crawl up through the funnel they are treated to a shower.

Forming a Nucleus of Bees

It is a very simple thing to put one or more frames of brood with some bees in an empty hive, and when you have done that you have a nucleus. But after having done that simple thing, you may open the hive the next day to find all the bees gone, and the brood chilled. Some precaution must be taken to make the bees stay where they are put.

The age of the bees has something to do in the matter. Young bees that have flown little or not at all will stay wherever they are put if conditions are satisfactory. Queenless bees are more easily satisfied with a new location than those that have a strong attachment to a laying mother. A large number of bees will stay in a new place better than a small number. If bees are imprisoned for about 3 days, they will, upon being realeased, mark their location and adhere to it.

Keeping these principles in mind, there ought not to be much trouble Take from a normal colony a frame or two of brood with adhering bees (be careful not to take the queen), put them in an empty hive, and fasten the entrance so no bee can pass. Leave them thus for 3 days and then open the entrance. Some, especially at an out-apiary, close the entrance with green leaves or grass. In 2 or 3 days the bees will dig the entrance open, the drying of the green leaves aiding toward this end. If a strong colony should be imprisoned in a hive in hot weather, the bees would probably be smothered to death, but there is no danger of this when a nucleus is in a full-sized hive. And for the general honey-producer it is hardly advisable to use anything but the regular hive for a nucleus.

Along with the frame or frames of brood there should always be given one or more combs without any brood, but containing a pound or so of honey.

Put into a hive as many as 6 frames of brood with adhering bees, and there will be no need to imprison the bees. Of course, it does not matter whether these 6 frames of brood be all taken from the same hive or from 6 different hives. Of course you do not want 6 frames of brood for a nucleus; that would be rather a colony. So 3 days later you may take away all but one or 2 frames of brood, and you will have a nucleus left. With the brood and bees taken away you may form 2 other nuclei, and these being queenless will stay where put without being fastened in, although for greater security it may do no harm to imprison them for a day or more.

Sometimes a beginner wants to avoid the unaccustomed task of finding a queen. Well, a nucleus may be made without ever seeing a queen. Take from a colony a frame or two of brood, shaking and brushing off all the bees. If desired, a half-dozen such frames may be taken. Put them in a hive-body, and set this over a queen-excluder over a strong colony. It will not be very long until the bees from below will come up and cover the brood, but it may be as well to leave it till the next day. Then you can take these frames of brood covered with bees and use them as heretofore directed, with no fear of taking a queen.

If you want to operate with only a single colony, you may proceed in another way. Take from the colony 2 frames of brood with adhering bees, paying no attention to where the queen is. Put these in an empty hive which we will call B, the old hive being A. Set A on the new stand where you intend the nucleus shall remain, and set B in place of A. Four days later you may find plenty of eggs in B. That shows that the queen is in B. Bring all the brood and bees except one or two frames from A and put in B, of course filling up the hive with drawn-out combs or frames filled with foundation. That leaves your nucleus on its new stand in A. You may, however, find no eggs in B. If not you will be petty sure to find queen-cells there. In that case all you have to do is to let

American Bee Journal

the hives swap places, and that leaves your nucleus on its new stand in B. You will understand that these changes are made in view of the fact that the field force will remain at the old stand, no matter which hive is there.

No Use Doctoring for Black Brood

Delos Wood writes: "I have had experience with black brood, and say it is useless to doctor for it. The McEvoy treatment is the only remedy." For some reason American bee-keepers have never taken much stock in using drugs for either kind of foul brood, although in Europe they are used no little, at least as palliatives. In England it is a common thing to put napthol beta in all syrup that is fed, as a preventive.

Color of Virgin Wax

Mr. T. W. Cowan teaches that freshly made wax has a yellow tint. Dr. C. C. Miller sent him a sample of wax simply melted from a piece of comb that had never been used for anything but to contain its one filling of honey, of which Mr. Cowan says in the British Bee Journal:

"The sample is very nearly white, and much paler than any beeswax obtained in this country without bleaching."

The question is whether other bee-keepers in this country find virgin wax white like Dr. Miller's, or pale as in England.

Dr. Miller's Experience with European Foul Brood

In 1907 some cells of dead brood were found in No. 13. We thought it might be that they were poisoned, as an orchard in easy reach had been sprayed while the trees were in bloom. If we had known at the time that we could send samples to Dr. Phillips at Washington for identification, it would have saved no little subsequent trouble. But No. 13 apparently recovered, and was one of the very best in the whole apiary. In 1908 I think the same trouble appeared in 2 colonies, and little heed was given to it, the supposition still being that the spraying accounted for the trouble. The year was a boomer for the bees, and if there was any dead brood later in the season it was unnoticed.

In the spring or early summer of 1909 we noticed more or less dead brood in a number of colonies, but not until after we had done our level best to spread it throughout the whole apiary by exchanging frames. A sample was sent to Washington. The reply came that we were entertaining foul brood—not American—but European—the kind that had been pronounced ten times worse than American!

Just for a little I had a feeling like giving up in despair. But not for long. Others had fought the disease; why not I, even if it was spread all through the apiary? One thing to be thankful for was that I had given up the out-apiary, and had nothing but the home apiary to care for. Things are never so bad but they may be worse.

In all there were about 150 hives in the apiary with bees in, although a good many hives contained nuclei, most of which were shortly broken up. Looking over the record book now, I find only 22 colonies that were at all times entirely clear of the disease throughout the entire season, against 93 that were more or less affected. How many of the nuclei were affected I do not know, but breaking them up certainly lessened the number of affected families to deal with. Besides, the season being one of dearth, there was always danger that robbing might be started at any one of the nuclei, and a diseased nucleus might thus give the disease to several clean colonies.

The failure of the crop made matters look more discouraging, although I may remark in passing that the late flow filled up the hives in good shape for winter, and gave about a thousand sections besides. The most discouraging feature of the whole case was the fact that all around were those who had one or more colonies here and there whose bees were diseased, and however often I might clean up, these sources of infection would always be ready to give me a fresh start until they were all wiped out; since there is no law in Illinois to prevent any one from indulging in all the foul brood he likes.

In some colonies only a bad cell or two were to be seen; and right here is as good a place as any to say just what was to be seen. Generally the diseasd brood was seen when nearly full grown and still unsealed. A healthy larva is pearl-white; the diseased brood is cream color or darker. That's the only thing we paid any attention to, and it is not difficult to detect, even if there be only a single diseased larva in the hive. Generally very little ropiness could be detected, and the odor in this European or black brood is very little compared with that of American foul brood. There was no appearance of anything wrong with the sealed brood, as is the case in American foul brood. Perhaps there is little or no diseased brood in the sealed cells of European foul brood, the brood all dying before it is sealed and being cleaned out by the bees. And right here, *I think*, is a marked difference between the two diseases. In American foul brood the putrid mass dries down in the cell so solid that the bees cannot remove it, while in the European variety it is not so much like dried glue, and the bees can clean it out of the cell, as was shown by the blackened remains thrown out at the hive entrance in at least some cases.

The amount of bad brood in a hive ran all the way from a single cell up to perhaps one in every 8 or 10 cells of unsealed brood. This, however, may not be entirely correct, as it is only a matter of memory. As we wanted to give attention first to the worst cases, we marked as "bad" any colony that had one or more bad cells up to those that had perhaps one bad cell in every 20 cells of unsealed brood, and anything worse than this was classed as "very bad." I know it may sound a little strange to some to class as "very bad" a colony having among its unsealed brood only 5 to 12 percent diseased, for that would class as very bad a colony having only about 1½ percent of its *whole* brood diseased; when they have seen foul brood so bad that nearly all the brood in a comb, both sealed and unsealed, would be rotten. I'm only telling how it was here. How long the disease would have to run before it would get to be so very bad I do not know.

July 8 we began throwing on foundation after the orthodox plan, beginning with some of the "very bad" cases. In the first case we shook the bees on newspaper in front of the hive, so that if any affected honey was shaken out the newspaper could be burned. But after this first case we *brushed* the bees off. It was perhaps safer, and on the whole less trouble. Dr. Phillips having said that he thought the second shake was not necessary, the bees were thrown upon full sheets of foundation, and I may say here in passing that in no case where they were thus thrown upon foundation did the disease appear again. Neither did the disease reappear from infected hives, for nothing whatever was done to disinfect the hives. Whether any harm may come in future remains to be seen, but as no harm was found up to the close of the season, it seems probable that none will be. The frames were boiled in lye and used again.

It was not long before we discovered that colonies that had been treated were deserting their hives. In all there were 9 hives that were thus left utterly empty. We concluded that as no honey was coming in they were starved out. So, after that, we began giving honey to each colony when it was brushed. If a super with a little honey had been on the hive, it was left, with an excluder under it. Otherwise a section or two was put into the body of the hive. Although these sections were generally from diseased colonies, in no case was it discovered that any infection came from them.

Giving the bees a lunch at the time of brushing them was generally effective in preventing desertion, but not always. We finally settled on the plan of leaving in the hive one of their combs. This was put in one side of the hive, and next to it given 2 empty frames. Not empty combs, but empty frames—not the least bit of a starter in them. Generally the bees made no use of more than one of these, and within 3 or 4 days we found at least a little comb built on the frame next to the comb. Then we took away the comb, leaving the frame they had started on, and filling up the hive with full sheets of foundation. Sometimes we took away the frame they had started on as soon as a good beginning was made on the foundation, and sometimes we didn't. In either case the cure was all right, only there was danger of the frame being filled out with some drone-comb.

The brood that was taken from 4 colonies was piled up on a 5th over an excluder. In three weeks the brood would be hatched out, and the combs in the 4 upper stories would be ready to be melted up. But there would still be the lower story full of affected combs, which would have to be dealt with. Then I thought we might take advantage of the Alexander plan, if

American Bee Journal

there was anything in it. The plan of the late E. W. Alexander in treating European foul brood was to make a colony strong, make it queenless for 3 weeks, and then give it a young Italian queen, the bees, while queenless, having cleaned out all disease from the cells. So I took the brood from the diseased colonies and enough bees to care for the brood, and made a pile 4 or 5 stories high, leaving the pile queenless. In 10 days all queen-cells that were started in the pile were killed, and either then or within 2 or 3 days a very young virgin queen of choice stock was given.

The combs of some of these piles, after being thus treated, seemed to be cleaned out all right, and no disease showed in the brood that was in them afterward. Other piles were a failure. I am inclined to think that the success was where the piles were very strong in bees, and the failures where there were not so many bees.

As before said, we commenced first on the "very bad" cases, leaving till the last the mildest cases, and by the time we got around to take care of these last no bad brood was to be found in them, the bees having apparently cleaned out the disease of their own accord. Of course these were left without any treatment. There were 23 of these colonies which had at least a few cells of bad brood and were cleaned up by the bees themselves.

The regular thing is to shake on foundation or starters in the evening—that, probably, because safer from starting robbing. With so much to do, it would have been inconvenient for us to do all the work in the evening. We did it any time in the day when the bees were at work, and although a dearth was on, yet there was at least a little the bees could do for a good part of the day, even if they did not get enough for their own use. We kept a very sharp lookout for robbers, and whenever there was any sign of them we suspended operations.

From the experience I have had so far with European foul brood, and from what I know about American foul brood by no small amount of reading, I have doubts as to European being very much worse than American, if indeed it is as bad. But it may be that for some reason the European was not so bad here as elsewhere.

The Alexander treatment was in some cases successful and in some cases a failure. In all cases where colonies were thrown on foundation, although we did some things that were not according to rule, there was never a single diseased cell to be found in any one of them afterward. Yet if it were to do over again, I should make more use of the Alexander plan, and throw fewer colonies on foundation. A colony thrown on foundation was so much more reduced in strength than one left with its combs, that one could afford to treat again the cases of failure with the Alexander plan. Moreover, it is possible that there would be very few cases of failure with the Alexander plan if all colonies treated were first made *strong enough.*

It is just possible that what succeeded in a year of crop failure might not be just the same in a bumper year. And what succeeds with European foul brood may not turn out the same with American. I have some doubt whether the Alexander treatment will succeed at all with American foul brood.

C. C. MILLER.

One Dollar a Year After this Month

As we have been announcing for several months the subscription price of the American Bee Journal will be $1.00 beginning Jan. 1, 1910. But those who desire to do so can have it for two years in advance of that date at the present rate of 75 cents a year, *if paid before Jan. 1, 1910.* That is, send us 75 cents for 1910, or $1.50 for 1910 and 1911, before the end of this month. Of course, any who are in arears on their subscriptions will also pay to the end of the present year at the 75-cent rate, or 6¼ cents a month. The end of the month to which your subscription is paid is indicated on the printed label which appears on the wrapper in which your copy of the Bee Journal is sent to you each month.

Please don't forget that the 75-cent subscription price ends with this year—1909. But if you want to take advantage of that price, you *must* order during "this month" (December), as mentioned above. After Jan. 1, 1910, it will be $1.00 a year. You can save 50 cents by paying the $1.50 for 1910 and 1911 any time before Jan. 1st—the end of this month.

The Index for 1909

This number contains the full index for 1909. We hope it will be of value to the majority of the readers of the American Bee Journal. It shows what a wonderful variety of apiarian topics have been discussed during the year. An index is almost invaluable to one who wishes to discover quickly what has been written in a volume, and especially if the same subject has been treated frequently in the same volume. We feel that the space occupied by this index is well used. All who have preserved the rest of the year's numbers should have them bound so as to have them for future reference.

Chicago-Northwestern Convention

The 30th annual convention of the Chicago-Northwestern Bee-Keepers' Association was held at the Briggs House in Chicago, Dec. 1st and 2d. The attendance was about as large as usual, and the interest taken in the discussions was splendid. Many united in saying that it was one of the best conventions ever held in Chicago, and that meant a good deal, for some great meetings of bee-keepers have been held here. Dr. C. C. Miller. M. M. Baldridge, E. J. Baxter, Geo. W. Jones, Franklin Wilcox, Dr. Bohrer, W. M. Whitney, R. F. Holtermann, F. B. Cavanagh, W. H. Horstmann, and others of the leading convention men were present.

The proceedings were taken in shorthand, and will be published in full in the cloth-bound report of the Illinois State Bee-Keepers' convention held in Springfield last month, and also the report of the National at Sioux City last September. By sending $1.00 to Secretary Dadant, you will thus pay a year's membership in the Chicago-Northwestern, the National, and the Illinois State Association—three organizations for the dollar.

Those elected as officers of the Chicago-Northwestern Bee-Keepers' Association for the ensuing year are as follows:

PRESIDENT—George W. York, of Chicago
VICE-PRESIDENT—Miss Emma M. Wilson, of Marengo, Ill.
SECRETARY-TREASURER—Louis C. Dadant, of Hamilton, Ill.

This convention is held annually in Chicago on the first Wednesday and Thursday of December, during the International Live Stock Exposition.

To Association Secretaries

We would like to have all secretaries of bee-keepers' associations send us in advance notices of their meetings, so that we can publish them. But be sure to get them to our office in time. We ought to have them at least 60 days ahead of the dates of conventions. Then if they are too late for one number of the American Bee Journal, they will appear in the following number.

We would also like to have the secretaries send us brief reports of their conventions, including the papers read. Try to give the cream of the discussions, also. We would like to co-operate with the officers of all the bee-keepers' associations in America, and if possible help them make their meetings more successful. Why not let the old American Bee Journal aid you, convention officers?

Our Trips to the East and West

About 4 years ago we visited nearly all the leading bee-supply manufacturers of this country, and what we saw then was indeed a revelation to us. So a few weeks ago we started out to revisit the same enterprising people, first going to the Northwest as described in

American Bee Journal

last month's American Bee Journal. The following is a brief report of our second and third trips:

Walter S. Pouder

Oct. 15th we left Chicago, stopping first at Indianapolis to see Walter S. Pouder, at 859 Massachusetts Ave. We found him in his magnificent new store, but of course not busy with bee-supplies, as the season was over some weeks before our arrival. But he was in the honey business "good and

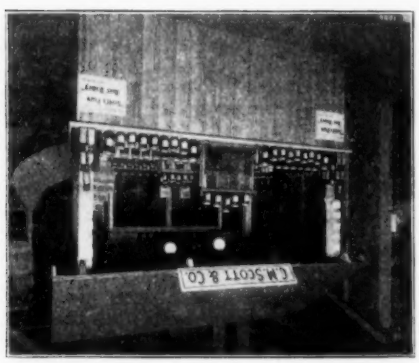
O. I. MASTEN.

plenty," assisted by his faithful helper, O. I. Masten, who has been with him for about 15 years. Mr. Pouder has been in the bee-supply and honey business for 20 years, and, by reason of his transparent honesty of dealing, and his determination to give entire satisfaction, he has built up a splendid trade in both bee-keepers' supplies and honey.

The C. M. Scott Co.

This bee-supply and honey firm is also in Indianapolis, at 1009 E. Washington St., Mr. E. A. Dittrich being its chief moving spirit. We met him in the evening at the Pure Food Show being held in Tomlinson Hall. A picture of his exhibit appears herewith.

Mr. Dittrich not only had a fine display of both comb and extracted honey, honey-vinegar, etc., but also gave live bee demonstrations in a wire-screen cage to the wondering multitude. We authorized him to offer any lady 50 cents who would enter the cage with

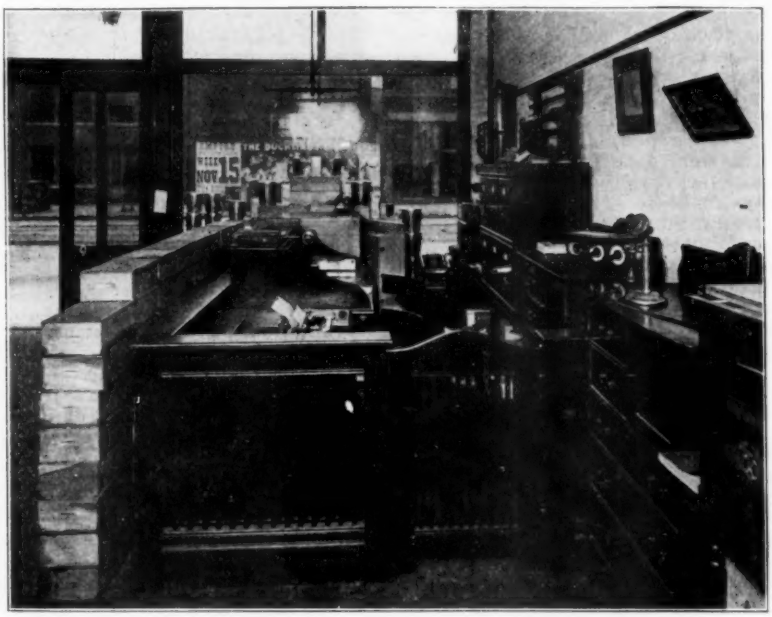


HONEY-BOOTH OF THE C. M. SCOTT CO.

him, but there were no takers. It created much interest.

C. H. W. Weber & Co.

We left Indianapolis for Cincinnati at about 4:30 a.m., and arrived about 7 a.m. After a restaurant breakfast we took a street-car for the big store of C. H. W. Weber & Co., at 2146 Central Ave., now managed by Mr. Chas. H. Weber, who is a hustler *in* business and *for* business. He is ably aided in the office by his alert sister "Alma," who doubtless will be surprised to see her photograph in these columns.



INTERIOR VIEW OF WALTER S. POUDER'S HONEY AND BEE-SUPPLY OFFICE.

As most of our readers will remember, Mr. C. H. W. Weber passed away about a year ago. He succeeded the late Chas. F. Muth in the bee-supply and honey business. Mr. Muth was a sturdy German, honest and enterprising as a man could be. And his successor was every bit his equal in these regards. Mr. Weber maintained the business in excellent style, and his son "Charles" seems to be a "chip off the old block," as the expressive saying goes. He is not only a pushing bee-supply dealer and seedsman, but is the champion rapid honey-bottler of America, we verily believe. His daily capacity is 240 two-dozen case tumblers, ready for shipment, all the work being done by only four men.

Mr. Weber had a small quantity left of a car of the most beautiful sage comb honey, from Southern California, that we ever saw. We believe it was his seventh or eighth car of all kinds of comb honey for this season, besides perhaps several cars of extracted honey. We said Mr. Weber is a hustler, and it is easily proven, as will be seen from the foregoing.

The Fred W. Muth Co.

Mr. Fred W. Muth is a son of the late Chas. F. Muth, to whom we referred above. His firm has built up a large business in bee-supplies and honey. We think we are safe in saying that "Fred" has traveled more thousands of miles in the interest of honey sales than any other living man.

His firm occupies three large floors at 51 Walnut St. We wouldn't dare estimate the number of carloads of honey he had in stock, in both 5-gallon cans and in barrels, but it looked as if there was enough to sweeten half of the country. There is no question but that The Fred W. Muth Co. does its share of the honey business, and also of bee-supplies, as well.

The W. T. Falconer Mfg. Co.

Before landing in Falconer, N. Y., where the great W. T. Falconer Mfg. Co.'s plant is located, we had spent a few days in eastern Ohio, visiting our aged and beloved mother, also sisters and brothers. As we wanted to spend

MISS ALMA WEBER.

Sunday with friends in Buffalo, and it being Saturday when we arrived at Falconer, we could remain only two or three hours. But Mr. Leslie Martin, who has charge of the bee-supply end of the business, was very kind to us

American Bee Journal

and took us over all the extensive plant of the Company, which is one of the largest in the world making wooden school and advertising novelties, toys, etc. Not a bit of wood is wasted there—not even the knots or sawdust, for they are used for fuel under the great boilers that help to furnish the power necessary to run the immense factory of the W. T. Falconer Mfg. Co.

Saturday being a short day, and Mr. Falconer himself being very busy, and also having a previous engagement, we left immediately after lunch, which we had with Mr. and Mrs. Martin.

Referring to Mrs. Martin, reminds us of a good story. It seems that Mrs. M. (who until a few months ago was Miss Carrie Boehme, of Cincinnati), was chief clerk in the office of The Fred W. Muth Co. We had met her there four years ago, and in the absence of Mr. Muth, she was very gracious and kind to us. We remember that Mr. Muth, on several occasions, referred to "Miss Carrie" as being practically indispensable to the firm.

Well, a year or so ago Mr. Leslie Martin came to Cincinnati. Being a practical bee-keeper, and for some time in the employ of the apiarian department of the United States Government, he and Mr. Muth were soon good friends. He was invited to make Mr.

MR. AND MRS. LESLIE MARTIN.

Muth's office his headquarters while in Cincinnati, which he gratefully did.

A little later Mr. Muth was asked by the Falconer Mfg. Co. if he knew of some wide-awake young man who could take charge of their bee-supply department. Of course he did. He knew just the right man. And so he recommended Leslie Martin.

But here is where the "good story" comes in. What did "Leslie" do but take "Miss Carrie" with him as his wife! And now she helps him in his office work.

Talk about enterprise! Do you know of anything to beat that? And poor Mr. Muth—well, his "Miss Carrie" was gone. And yet no one could blame Mr. Martin, for he simply took advantage of his opportunity. He was wise. He knew what he wanted—and got her.

But Mr. Muth took it good naturedly, and is getting along all right with his office work, for he was fortunate in having a very capable sister who could come and take the place that "Miss Carrie" filled so acceptably for so many years.

The A. I. Root Co.

We next called on the A. I. Root Co., at Medina, Ohio. They were in the midst of a general tear-up, incident to re-building. A 3-story concrete-and-brick building for warehouse purposes was the biggest thing under way just then. They were also changing their water-sprinkler system, which cost enormously. But, when completed, it will reduce their fire insurance rate greatly.

The whole plant of the Root Company covers something like 15 acres of ground. It is a tremendous thing, and practically all built up as a result of the work of the busy little honey-bee. The wholly-concrete building in which are located all the business offices of the firm, besides printing office, etc., is a magnificently appointed one-story building. The private office of each member of the firm is delightful.

When we were at Medina all the employees that could possibly help outdoors were used in constructing the new building, and in making the general changes. During the busiest season they employ something like 350 hands.

Mr. A. I. Root, the "father" of practically everything at Rootville, was at home, but expected in a few days to go to his Florida camp for the winter. We found him dictating to "Stenog." (Mr. W. P. Root) his semi-monthly sermonette, clad in an overcoat and fur cap, as usual!

In order to get to our next and last stop in time, Editor E. R. Root very kindly took us in his speedy automobile to Lodi, Ohio, some 10 miles away, after first running out to one of the queen-rearing yards a couple of miles from Medina. Of course the bees were already prepared for winter, and as the day was cool none were flying.

MAIN FACTORY OF THE A. I. ROOT CO., MEDINA, OHIO.

The Griggs Bros. Co.

Our last call was made on The Griggs Bros. Co., 24 N. Erie St., Toledo, Ohio. We had never been there before. Toledo is a beautiful city, located at the mouth of the Maumee River, on Lake Erie. The Griggs brothers are two enterprising young men who surely are doing a great business in bee-supplies and honey. Their large bottling department is in charge of Mr. Kimball, father-in-law of Mr. S. J. Griggs. They have a fine, large, 3-story store building, splendidly arranged for their growing business. And they are succeeding, too, as every firm will succeed that is determined to deal squarely and honorably every time. It was a great pleasure to us to spend several hours with these brothers who, though having had their struggles, are rapidly getting to the top in both honey and bee-supplies

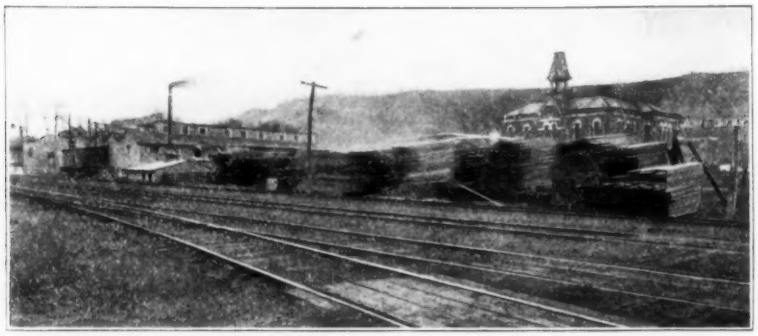
OFFICE AND FACTORY OF THE KRETCHMER MFG. CO., COUNCIL BLUFFS, IOWA.

The Kretchmer Mfg. Co.

Nov. 18th we were at the factory of the Kretchmer Mfg. Co., Council Bluffs, Iowa. In 1905 it was moved from Red Oak, Iowa, where it had been located for many years. Mr. Edward Kretchmer, the head of the concern, began the

American Bee Journal

manufacture of bee-supplies in 1864, which makes his firm the oldest in its line in the United States. It has had a phenomenal growth since being established in Council Bluffs, having increased its volume of business dur-



RAILROAD TRACKS AND LUMBER YARDS OF THE KRETCHMER MFG. CO.

ing 1908 and 1909, 109 percent over that of 1907.

The power used by the Kretchmer Mfg. Co., is all electricity—29 five-horsepower motors. They are about to install several new machines. One machine, of their own invention, turns out complete Hoffman end-bars, the blank piece of wood being put in at one end of the machine, and comes out at the other end a perfect Hoffman end-bar, and at a rapid rate. They make the "Champion" bee-smoker, of which 15,000 were turned out the past year.

Council Bluffs has 13 railroads, which makes it such an exceptional shipping-point. It is also in a great honey-producing district, and being on several of the transcontinental railroad lines, makes it a sort of gateway to the far West. And that part of our country, through its tremendous irrigation projects, is rapidly being opened to the growing of alfalfa and the coming of many bee-keepers, which result is sure to follow.

Three of Mr. Kretchmer's sons, besides a brother of his wife, are all employed in the business. Each is in charge of a different department, which thus keeps the management pretty much in the family. No wonder the business is such a success. And, what is best of all, they deserve the large success they are having.

It was very encouraging to us to come in personal touch with the manufacturers of bee-keepers' supplies again. Some 4 years ago we made the rounds among them, and felt that it was well worth the doing. We think that Bee-keepers ought to be in closer contact with the bee-supply manufacturers and dealers. Their interests are mutual. Each needs the other in order to succeed. One cannot be independent of the other. So if there is anything the American Bee Journal can do to help cultivate a better relation or understanding between the honey-producer and manufacturers of bee-keepers' supplies, it will be only too glad to do it. We believe in encouraging everybody connected in any way with bee-culture. It is an ennobling industry. Bees are so beneficial in so many ways. Their work among the spring-time blossoms is scarcely less valuable than their honey product. So the fruit-growers and bee-keepers should also be the best of friends. In fact, one pursuit is so intimately related to another that really no man can say he is independent of every other man. No one liveth unto himself. Surely no normal man would desire to do so. We all need to get closer together, and thus gather inspiration and help from our fellows in life's battle for existence and for success. "In union there is strength"—of course there is. There is power, also. Let us all pull *together*, and thus go on to the highest progress and advancement possible to man—not only in beedom, but in every other department of the world's endeavor.

California Winter Bee-Institutes

Institutes for bee-keepers under the direction of the University of California are being arranged for at the following places:

For Northern California, at Sacramento Dec. 17th and 18th (jointly under the auspices of the Northern California Bee-Keepers' Association).

For the San Joaquin Valley, at Tulare Dec. 20th and 21st (jointly with the Tulare Bee-Keepers' Association).

For Santa Barbara, Ventura, Los Angeles and Orange Counties, at Santa Paula Dec. 22d and 23d.

In the Riverside District, at Colton Dec. 28th and 29th.

Definite dates have not yet been set for the usual institute in the Central Coast Counties, but very likely a joint meeting will be arranged for with the California Central Coast Bee-Keepers' Association at some central point in Monterey County, perhaps at Salinas.

The following program will give something of the plan and scope of these institutes, slight variations being made in the topics to be presented according to local needs:

FIRST AFTERNOON, 1:30 P.M.

Music.
Address of Welcome.
Response—Mr. Ralph Benton, of the University of California.
"The Kind of a Location to Look For"—Mr. Benton.
"Equipping an Apiary"—Mr. M. C. Richter, of the University of California.

FIRST EVENING, 8:00 P.M.

Music.
"Problems in Bee-Breeding"—Mr. Benton.
"Methods of Queen-Rearing"—Mr. Richter

SECOND MORNING.

Question-Box.
"Building Bees Up for the Harvest"—Mr. Benton.
"The Marketing of Honey."
"Moving Bees to Increase Returns"—Mr. Richter.

SECOND AFTERNOON, 1:30 P.M.

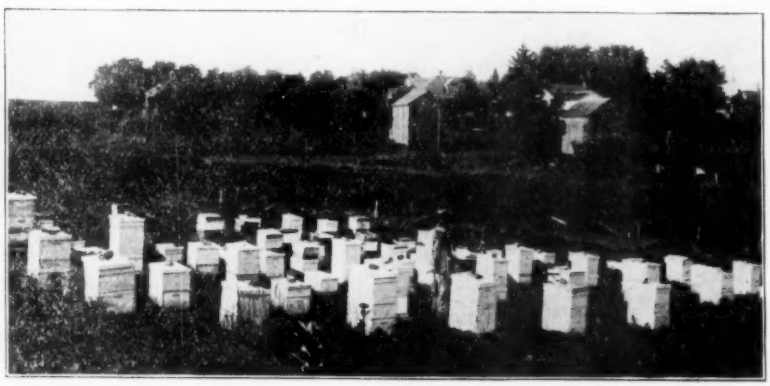
Question-Box.
"Honey-Yielding Plants and How to Utilize Them"—Mr. Richter.
"Foul Brood and Other Diseases of Bees"—Mr. Benton.
"The Rendering of Beeswax"—Mr. Richter.
"The Chemistry of Honey and the Making of Vinegar"—Mr. Benton.

Bee-keepers are requested to bring samples of honey and beeswax to the institute gatherings, and in this way contribute to the institute exhibits.

RALPH BENTON,
In Charge of Apiculture,
University of California.
Berkeley, Calif.

Apiary of Mr. Frye

I am sending a view of my bee-yard. I had, spring count, 54 colonies, and increased to 67. I got a little over 1000 pounds of honey. This was a very poor year for this locality. Some of my neighbor bee-keepers did not get more than 4 or 5 pounds to the colony. I got about 60 pounds from a queen that I got last year. I am selling my honey now at 12½ cents per pound for the extracted, and 20 cents per pound for the comb. I have mostly alsike



APIARY OF ORVILLE F. FRYE, OF DODGEVILLE, WIS.

American Bee Journal

clover as pasture. I work with the clipped-queen system. I found one swarm on the ground one morning not 20 feet from an apple-tree. They were black bees with a queen that could fly, so I knew that they were not mine. We hope for better luck next year.

ORVILLE F. FRYE.

Dodgeville, Wis., Sept. 7, 1909.

The Illinois State Convention

We attended this convention at Springfield, Nov. 18 and 19. The attendance was good, and it was perhaps the best meeting ever held by the Illinois State Bee-Keepers' Convention. A full shorthand report of the proceedings was taken, which will be published in pamphlet form later on, and announced in these columns when ready for distribution.

The following were elected as officers for the ensuing year:

President—C. P. Dadant, Hamilton, Ill.

Vice-Presidents—1st, Aaron Coppin; 2d, J W. Bowen; 3d, Louis Werner; 4th, W. B. Moore; 5th. I. E. Pyles.

Secretary—Jas. A. Stone, Route 4, Springfield.

Treasurer—Chas. Becker, Pleasant Plains.

Foul Brood Inspector—A. L. Kildow, Putnam, Ill.

Book Notices

This is a column begun last month in which will be noticed some of the best books of the day. This will be a help to our readers, for many who wish to place before their families and others good books, do not know what to select. Anything we notice in our book column can be relied upon as being just as represented. And we would be glad to fill orders for those we describe, either alone or clubbed with the American Bee Journal, as we state in the paragraph following the notices. Also any books we do not mention we will be glad to order for our readers, if they will write us or remit to us for them.

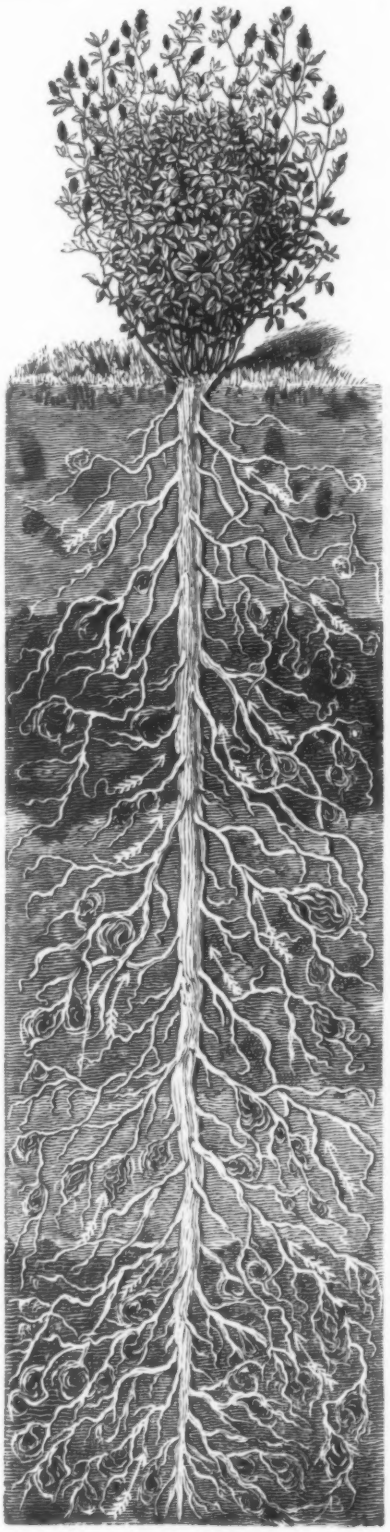
December Number a Little Late

Owing to the Chicago-Northwestern coming the first days of this month, and also on account of this December issue of the American Bee Journal being a 48-page number, it is a few days later than usual. We aim to mail the Bee Journal between the 10th and the 15th of each month. If at any time a subscriber does not receive it before the 18th or 20th it has likely been lost in the mails, and another copy should be asked for *then*, and not wait several months, as we may be out of the desired copy if not written for promptly.

Alfalfa—the Great Honey-Plant

Farmers' Bulletin No. 339, issued by the U. S. Department of Agriculture, Washington, D. C., is devoted wholly to a consideration of alfalfa. Its description is given as follows:

The accompanying illustration indicates the general appearance of the plant. It may briefly be described as being a deep-rooted, long-lived herbaceous forage plant belonging to the botanical family Leguminosæ, or pod-bearing plants. Its flowers are violet, clover-shaped, and borne in compact oblong racemes or clusters. The pods are small,



ALFALFA—SHOWING LONG ROOTS.

slightly hairy, and spirally coiled in two or three turns. The kidney-shaped seeds are about one-twelfth of an inch long, and several are contained in each pod.

One of the most important characteristics of alfalfa is its long taproot, often extending 15 or more feet into the soil. This enables the plant to reach stores of plaut food in the soil which cannot be secured by the ordinary shallow-rooted field crops. The long taproot is also of great importance in sections of limited rainfall, as by this means the plant is enabled to withstand extremes of drouth which would otherwise be fatal.

The value of alfalfa for bees is briefly mentioned in this paragraph:

The development of the honey-producing industry in the West has been practically coincident with the extension of alfalfa culture. Statistics indicate that the heaviest yields of honey per colony of bees are gotten in the sections showing the greatest acreage of alfalfa. That the honey is of a good quality is evidenced by its standing in exhibitions of this class of products. The number of times that the alfalfa fields come into blossom during the season makes possible the gathering of successive crops of honey.

Our Front-Page Pictures

The following are the brief descriptions of the front-page pictures of apiaries:

No. 1.—Apiary of C. E. Eccleston

This apiary is located in Greene, N. Y., and contains 31 colonies.

No. 2.—Apiary of S. A. Peck

I am enclosing a photograph of my bee-yard and honey-house taken after the supers were all off but one, and some of them all off. I "weighed up" a few days ago, and have only one hive in my yard that weighs 50 pounds, and many of them under 30. My banner colony that stored about 120 pounds, weighs only about 30 pounds. We have had the poorest year since I commenced, in 1902.

The picture was taken about Sept. 1, 1909, after the supers were nearly all off.

S. A. PECK.

Northumberland, Pa., Oct. 8.

No. 3.—Apiary of Chas. D. Doan

I am sending a picture of my bee-yard which consists of 37 colonies at present; 27 spring count. I am in the center, and my daughter is in the foreground with the smoker fighting a bee that is buzzing around her.

The forepart of the season was not very good for honey—no No. 1 white of any account, but the fall flow was better. My bees averaged a little over 80 pounds per colony, spring count.

The building you see in the distance is the Hull Butter Factory, 30 rods north.

Hull, Iowa., Sept. 22. CHAS. D. DOAN.

No. 4.—Apiary of Leroy Lloyd

I am sending a view of my Steuben County apiary of 137 colonies, mostly in home-made 8-frame chaff hives. This year has been the most utter and complete failure I ever saw for bees, and all kinds of farming, too. About Aug. 1 to 10, I saw something I had never seen before. The thermometer at noon stood from 85 to 90 in the shade, and in my whole yard of bees you would have to look sharp to see a bee flying, on account of the terrible drouth drying all the nectar up, when usually the flow is at its best from clover and buckwheat. LEROY LLOYD.

Rathbone, N. Y., Oct. 15.

No. 5.—Apiary of J. E. Lutts

I am sending you 2 photographs, one showing a bee-tree that I found up along the mountain side, from which I took out 100 pounds of fine honey. One thing peculiar I noticed, the hole where the bees went in and out was not more than half an inch in diameter. The hollow was about 3 feet long by 16 inches across. The tree was a monster elm, nearly 4 feet through the base.

The other photograph [No. 5] shows my 4 colonies of bees which I keep in the rear of a city lot. Two of the colonies have stored 175 pounds of honey. I see no reason why people living in the city cannot keep bees, and have all the honey they want to eat, and some to sell. I winter them outside. I put a box over them 4 inches larger than the hive, and stuff the space with dry maple leaves, and cover over the top waterproof, leaving a space in front for the bees to pass out when the weather is warm enough for

American Bee Journal

them to fly, and that is not often, for we get plenty of zero weather here, and lots of snow.

The 2 colonies I started in with last fall came out in fine shape last spring. My opinion is that outdoor wintering is the natural way. A friend of mine lost 60 colonies last winter trying to winter them in his cellar. He put in 140 colonies, with the above results. J. E. LUTTS.

Hamilton, Ont.

No. 6.—Apiary of F. D. Look

The yard contains 60 colonies and is run for comb honey—no extracted—and the honey is all sold within a few rods of the apiary. I never shipped a pound, and have been at it 15 years. My trade grows as fast as my apiary does. I had one-third of a crop this year. F. D. LOOK.

Campbell, N. Y., Aug. 7.

No. 7.—Apiary of Jay S. Kendall

I am interested in bees, and have been since I was 9 years old, so I have had a little experience in the last 17 years. At present I have 12 colonies. They stored lots of honey this year, and are good and strong this fall. Enclosed you will find photographs taken of them. One shows myself and wife just going to take the honey off. Notice 2 queens caged, which we are going to introduce. We both are interested in the bees.

JAY S. KENDALL.

Chemung, Ill., Sept. 30.

No. 8.—Apiary of W. S. Chapel

I enclose two views of my apiary of 34 colonies in Danzenbaker hives. I started 5 years ago with black bees, but in the last 3 years I have requeened with red clover Italian queens from several breeders, and in every case the queens were all right, and I was treated in a fair and honest manner.

W. S. CHAPEL.

North Troy, Vt., Sept. 13.

New Jersey Convention

The annual meeting of the New Jersey Bee-Keepers' Association will be held in the Assembly Room of the State House at Trenton, Saturday, Dec. 18th, beginning at 9:30 a.m. The program is not completed, but there will be papers on Comb Honey Production, Extracted Honey, Honey-Dew, Requeening, etc. One or two speakers outside of the State are expected.

The forenoon session will be devoted largely to the discussion of our Foul Brood Bill—how to get it before the legislature in a way that it will be favorably considered. There will be appointment of committees, annual election of officers, payment of dues, etc. This will be a very important meeting to all the bee-keepers of New Jersey, and there should be the largest attendance we have ever had. All interested bee-keepers should be there and take part in the discussions and offer suggestions.

There will be quite a little expense connected with getting our Bill passed, and we need all the annual dues of all members, and also many new ones. If any cannot attend, we should be glad to have them send the annual dues (50 cents), and ask for a printed copy of our Foul Brood Bill. Bring along samples of honey, beeswax, and honey-dew for comparison, or anything else pertaining to apiculture.

ALBERT G. HANN, *Sec.-Treas.*,
W. W. CASE, *Pres.* Pittstown, N. J.

"The Honey-Money Stories"

This is a 64-page and cover booklet 5¾ by 8½ inches in size. Printed on enameled paper. It contains a variety of short, bright stories, mixed with facts and interesting items about honey and its use. It has 31 half-tone pictures, mostly of apiaries or apiarian scenes. It has 3 bee-songs, namely: "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keeper's Lullaby." It ought to be in the hands of every one not familiar with the food value of honey. Its object is to create a larger demand for honey. It is sent postpaid for 25 cents, but we will mail a single copy as a sample for 15 cents, 5 copies for 60 cents, or 10 copies for $1.00. A copy with the American Bee Journal one year—both for 80 cents. Send all orders to George W. York & Co., Chicago, Ill.

Our Liberal Premium Offers

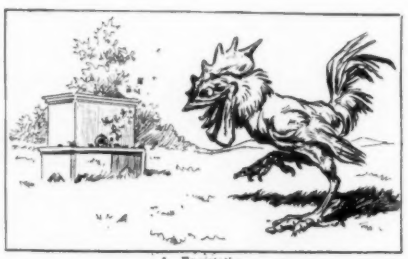
We offer many premiums in this number for the work of getting new subscribers for the American Bee Journal. We request every reader to help us increase the list of regular subscribers. It is not our aim to make more bee-keepers, but to make better bee-keepers of those who now are in the business. Surely this is right. Why not get your neighbor bee-keepers to take the American Bee Journal? It will pay you in more ways than one to do such missionary work. We not only pay you for it, but you will thus be helping to inform the bee-keepers around you how to conduct bee-keeping in the proper way; how to keep their bees free from disease; how not to spoil the honey market for you and themselves; how—but there are so many ways in which they would be helped by reading the American Bee Journal every month. And the cost is so small—only 75 cents for a whole year—about 6 cents a month. We will be glad to furnish free all the sample copies you can use judiciously. Why not begin now?

Langstroth Book "Special"

We have about 30 copies left of the book, "Langstroth on the Honey-Bee," of the edition just preceding the last. It is practically equal to the latest edition, and we will mail them so long as they last, for 90 cents a copy. (The regular price is $1.20.) Or, we will send one of the above 90-cent copies with the American Bee Journal one year—both for $1.50. Address the American Bee Journal office.

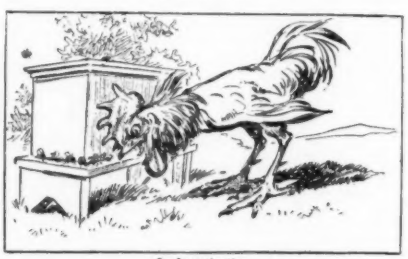
The Curious Cockerel and the Busy Bees, or He Found Out

(Drawn especially for "Poultry Husbandry," by John S. Pughe.)

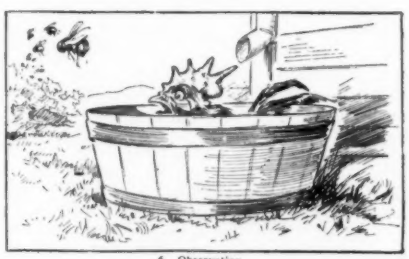


1. Expectation.

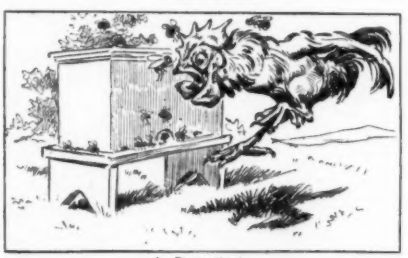
5. Inundation



2. Investigation.



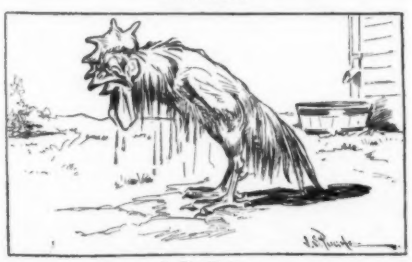
6. Observation.



3. Demoralization.

7. Evacuation.

4. Emigration.



8. Humiliation.

American Bee Journal

Conducted by J. L. BYER, Mount Joy, Ont.

Report of the Ontario Convention

The annual convention of the Ontario Bee-Keepers' Association was held in Toronto Nov. 10, 11 and 12, 1909, during the same week the Ontario Horticultural Show was in progress. This show, now an annual affair, is made up of exhibits of fruit, flowers, vegetables and honey, and as an educator of the public it is a great factor in helping the sales of these different products, and especially so in the matter of honey, as this latter article has, in the times gone by, too often unfortunately been classed as a luxury instead of being looked upon as a staple in the line of foods. The convention was fairly well attended, but personally, at least, I looked for a larger attendance, as the bee-keepers of the Province the past season were blessed with a good crop, as well as good prices—a combination that should certainly go a long way in bringing out the fraternity to such an important meeting. However, what may have been lacking in numbers, was certainly more than made up in enthusiasm.

Pres. Couse, of Streetsville, occupied the chair in his usual genial and capable manner, and the meeting throughout was entirely harmonious, although, as is usually the case at bee-keepers' conventions, the discussion at times was good and lively, very decided opinions pro and con being given on various subjects that came up for consideration.

Among the visitors from a distance were Messrs. Dine, Hershiser, House, and Clark, from New York State—the last three being no strangers to us, as they have been with us before, and from the parting greeting of Mr. Dine, we believe he will, if spared, be with us again at some convention in the near future.

Whatever the impressions formed by our visitors may be, one thing is certain, they are always heartily welcome, and we look forward with pleasure to the thought that in the future there will be more of these fraternal visits back and forth between the two countries, as most assuredly the boundary line is simply imaginary in so far as it refers to the good fellowship existing between the men and women of the bee-keeping fraternity.

Queen-Rearing and Queens.

Broadly speaking, the time of the convention was mainly spent in discussing two very important phases of bee-keeping, namely—the best methods of suppressing foul brood, and the advantages of having good queens in the hives. With the latter subject, the best methods of rearing queens were also taken up, and the convention was fortunate to have two of our best queen-breeders in attendance, who gave addresses on the subject of queen-rearing, illustrating by means of the various paraphernalia used by commercial queen-rearers, the different steps in the systems so plainly that the veriest novice could have at least a superficial knowledge of this fascinating phase of the industry. The two gentlemen to whom thanks are due for their kindness in showing us how they do their work, are Mr. Clark, of New York, and Mr. Frank Adams, of Ontario. As one member of the Association remarked, it is not often that men are liberal and generous enough to "give away" the secrets of the work, whereby they earn their bread and butter; but he might have qualified the remark by saying that this procedure was not very common outside of the bee-keeping profession.

Along the line of queens, Mr. Sibbald gave a splendid address on, "Importance of Requeening," and in the discussion that followed all agreed that many queens are being kept that should be destroyed, and quite a few present were in favor of the annual requeening of all the hives. However, the majority would not follow so radical a plan, and the general consensus of opinion seemed to favor leaving good queens for at least two years. *Poor* queens should not be left in the hives even one year.

Foul Brood.

As to foul brood eradication, the fact that one whole session of the convention was given to the discussion and consideration of this disease proves that it is thought to be a serious menace to the industry. All 14 of the inspectors sent in reports of the season's work, and while it was stated that there was no cause for alarm, yet nothing in the way of half-way measures would ever keep the disease under control.

The black brood outbreak in the eastern part of the Province is really the most alarming factor presenting itself at present, and after the situation had been thoroughly discussed, a resolution was passed unanimously asking the Department of Agriculture to take the most radical measures to suppress the plague before it spreads from the few isolated localities where it is now raging.

Government Experiment Apiary.

Mr. Pettit gave a resume of the work done in the apiary during the past season, and while it was stated that the work was yet in the initial stage, yet it was hoped that another year the equipment, etc., would be so improved that the experimental work would be of real value to the apiarists of the Province. Mr. Pettit had been in correspondence with the various agricultural stations in the United States and other places, and in the whole comparatively little work was being done in the way of apicultural investigations. All the parties written to had given courteous replies, and in many instances much valuable information had been imparted that will be of much use in perfecting the work and organization of the Station recently established. Mr. Pettit was anxious for suggestions on the part of the bee-keepers as to profitable work to carry on, and while some thought that simple, practical experiments should be first carried out; others inclined to the view that work more of the scientific nature should be undertaken.

Secretary Hodgetts opined that in the near future Mr. Pettit would find plenty of work in both the practical and scientific sides of bee-keeping to engage his attention fully, but at the present time, owing to the work being yet in its infancy, we must wait a while before expecting too much from the limited equipment at their disposal.

Gasoline Engine for Apiary Work.

The use of the gasoline engine around the apiary, was the subject considered by Mr. Nolan, and after hearing of this "handy man" as he employs it, we would not be surprised if quite a few orders for gasoline engines would be placed with manufacturers the coming winter.

Messrs. Miller and Armstrong also highly endorsed these labor-savers, and the statement of Mr. Armstrong, that in extracting 13,000 pounds of honey, the cost for gasoline had been but 75 cents, was quite a surprise to most of those present. The engine as used by Mr. Nolan is on skids, and can be taken from one place to another, and will saw wood, run a small circular saw for making hives—in fact, do almost anything around the place where no great lot of power is needed. Especially for the large, reversible extractors now being manufactured are these engines a real necessity, and where labor is scarce, as it is now in most sections, from an economic standpoint it certainly looks as if it would pay many of us to use more machine-work in out-apiary operations than is now the case.

Rendering Comb into Beeswax.

Wax-rendering came in for a thorough discussion, and it was felt by many that this valuable product of the apiary was not receiving the attention of many that it deserved. The many presses on the market were discussed, some preferring the hot-water machines and others the unheated press, but all agreed that it was a mistake not to use a press of some kind. A few advocated the use of sulphuric acid for clarifying the wax, but the majority thought it should not be used except in extreme cases. It was pointed out by one speaker that wax properly rendered needed no acid to clarify, and this statement the writer would endorse

American Bee Journal

heartily, as even old combs will yield a beautiful yellow wax if properly handled. While it was thought that foundation makers all use sulphuric acid, yet Mr. Newton, who manufactures a high grade article, surprised the convention by stating that he had never used a drop of the acid.

Mr. Chrysler called attention to the fact that we should be careful in trying new things recommended in the line of cleaning wax, as an experiment recommended by a scientific man in one of our recent conventions had cost him a lot of money. He had reference to the idea of refining beeswax with nitric acid, for while the acid made the wax look beautiful, yet it was impossible to make into foundation after the treatment.

Different speakers called attention to the fact that they were supplying firms with wax for use in the arts, and that the special proviso was that it must be guaranteed that no sulphuric acid had been used in rendering it.

The gist of the discussion was that while it might be necessary in real dirty wax to use the acid, it is a big mistake, and entirely unnecessary, to use it in the ordinary production of the article.

Honored Mr. McEvoy.

A pleasing feature of the convention was the presenting of an address and purse of money to Mr. McEvoy, who so long was in the inspection work, and retired only last spring. Mr. McEvoy replied feelingly and fittingly, and stated that while the work had been done for the interests of the bee-keepers, from a financial standpoint he would have been better off if he had not engaged in the work.

Ontario Wants the National.

A resolution was passed unanimously, and with much enthusiasm, inviting the National Association to hold their next meeting in Toronto. Somehow we have a sort of presentiment over here that the meeting will come our way this time, and if such should not be the case, there will be a lot of disappointed bee-keepers on the north side of the boundary.

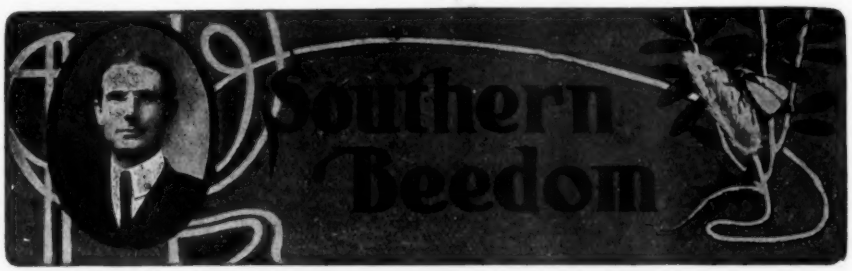
Thank Retiring Treas. Emigh.

Mr. Emigh, who has acted as treasurer for a long time, found it necessary to resign, and the Association, while loth to accept his resignation, felt that with the advancing age and business cares of Mr. Emigh, they could not well refuse his request. Many feeling expressions were offered as to Mr. Emigh's thorough work and devotion to the cause during all these years, and a unanimous vote of thanks was passed expressing the good wishes of the members, with the hope that he would be with us in the future as in the past, even though holding no office in the Association.

The officers for the ensuing year are as follows: District No. 1, Alex. Dickson; No. 2, A. McLaughlin; No. 3, H. E. Eyre; No. 4, C. P. Chisholm; No. 5, J. T. Storer; No. 6, W. Couse; No. 7, J. F. Switzer; No. 8, U. H. Bowen; No. 9, W. J. Craig; No. 10, D. Chalmers; No. 11, W. A. Chrysler; No. 12, Henry Johnson.

Ontario Agricultural College—Morley Pettit.

President, Wm. Couse, of Streetsville; 1st Vice-President, W. J. Craig, of Brantford; and 2d Vice-President, W. A. Chrysler; Secretary-Treasurer, P. W. Hodgetts, Parliament Buildings, Toronto, Ont.



Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

The Production of Bulk Comb Honey

Since writing the first installments on this subject, numerous letters with the most favorable comments and approvals have been received, showing that a great interest is being taken in the matter; and that in a favorable way, quite contrary to our expectations, as we feared we would meet with most serious opposition from the majority. It is a surprise to learn, however, that so many see advantages in the production of bulk comb honey, as we produce it in Texas, and admit that its production is applicable to other parts of the country—yea, the world—and not alone in the Lone Star State.

Right along this line we have the following on this subject from Mr. J. J. Wilder, of Georgia:

There have been too many section-comb-honey hives placed over the South for the good of the bee and honey industry here. The one-pound section presents an attractive appearance, and for this reason the beginner in taking his choice of hives has been led astray by selecting those with sections, and this accounts for at least nine failures out of every ten. It takes experience and a good honey-flow to produce section honey profitably. This cannot be expected of a beginner, and all localities have not the right kind of flows for section honey.

On account of the extra expense of an extracting outfit, and the tedious work of wiring frames, etc., many beginners do not engage in producing extracted honey.

By far the simplest is the production of "chunk" honey in shallow frames. It is the simplest, most satisfactory, surest, and most economical way to produce comb honey.

The bee-keepers' supply manufacturers have never listed a style of super for this purpose, nor have they given any information concerning chunk-honey production. Not much has been written for the bee-papers on this subject, but it is hoped that it will receive more attention, as it is the only hope for successful comb-honey production in many sections, of not only the South, owing to the ability of the bee-keeper or the nature of the honey-flows.

Chunk honey can be produced on either 8 or 10 frame hives in regular 5⅜-inch shallow extracting supers, with frames filled with thin super foundation. One or two inch starters would do, but full sheets are better. Two or three supers should be in readiness for each colony. The first is given as soon as the flow begins, and then others are added as needed, by the tiering-up plan as in section honey production. The honey can be removed as fast as sealed, and put on the market. At least ¾ of an inch of the comb should be left in each frame for a starter to be returned to the bees when the honey is cut out. [I would not do this, as, first, the comb honey is worth dollars and cents to us, and should *all* be cut out; and second, it is much more economical to return entirely clean frames with new, full sheets of foundation, which will be dealt with in a future article.—L. H. S.]

No queen-excluders are necessary. If at the height of the egg-laying season the queen should enter the first super, the brood will soon be crowded out and the combs are used for extracted honey, which we need to cover the comb honey after it has been put up. Such combs can be used as baits by using several to each super first given. If the number of such combs is very large, a super filled with them can be given to each queen for extra laying-room. If such are filled with honey, it can be extracted or left for winter stores. The following spring combs from these can again be used for baits as previously, and so on throughout the season.

If the bee-keeper produces honey only for his own table, he would better leave the honey on the hives in the care of the bees, removing only enough at a time for 4 or 5 meals, and it will be always fresh. But ¾ of an inch of comb should be left in each frame for a starter for the bees.

Chunk honey can be put up in almost any kind of a large-mouthed vessel for market. It is nicer put up in smaller vessels, as the comb is then not broken up as badly when it is removed for use. Two and 3 pound friction-top cans, and 5 and 10 pound round pails are good vessels, especially if the honey is not very light. If of light color, pint, quart, and half-gallon fruit-jars can be used, and nicely labeled. Such would make an attractive appearance and sell at a fancy price on any market. J. J. Wilder.

Well do we remember when Mr. Wilder wrote his first letter of enquiry regarding our way of producing bulk comb honey. He was producing section honey then. His methods now are very much the same as my own in producing bulk comb honey, except in some points. These will be brought out fully in future articles, in which each point will be enlarged upon, with an effort to cover the whole subject, step by step, so that all who wish to try our methods may do so just as we follow them ourselves.

Beginning with the January American Bee Journal, a description of the kind of supers, frames, comb foundation, etc., will be given so that others may know what kind to procure for another season's use. As far as it is possible we will use photographs to illustrate our paraphernalia and *modus operandi*, thus making everything as plain as possible.

Some Apiarian Awards at Texas Fairs

The apiarian exhibits at our large fairs, in spite of the unfavorable season and short honey crop, have been larger and better than in any previous year. More interest is being taken in these exhibitions, which aid the producer to educate the public and to advertise his business. As the chief promoter of this kind of work for many years, I am glad to see the good

American Bee Journal

work progress so nicely, and I am hoping that the bee-keepers will make up their minds even now to make next year's showing better still. The following are the awards:

Texas State Fair, Dallas, Tex., Oct. 16 to 31, 1909

Golden Italian bees and queen in single-comb observatory hives—1st, Louis Biediger, $5; 2d, Brazos Valley Apiary Co., $3.

Three-banded Italian bees and queen in single-comb observatory hives—1st, Louis H. Scholl Apiaries, $5; 2d, Willie Atchley, $3.

Carniolan bees and queens in single-comb observatory hives—1st, Brazos Valley Apiary Co., $5; 2d, Scholl Apiaries, $3.

Cyprian bees and queens in single-comb and observatory hives—1st, Scholl Apiaries, $5; 2d, Smith & Scholl, $3.

Holy Land bees and queens in single-comb observatory hives—1st, Scholl Apiaries, $5; 2d, Brazos Valley Apiary Co., $3.

Black queen and bees in single-comb observatory hives—1st, B. M. Caraway, $5; 2d, Louis Biediger, $3.

Best and largest display of bees of various races in observatory hives—Scholl Apiaries, $10; 2d, Brazos Valley Apiary Co., $6.

Best case of white section comb honey, 12 pounds or more—1st, W. W. Lowrance, $5.

Best display of special designs of comb honey—1st, Wm. Wiede, $5; 2d, Scholl Apiaries, $3.

Best 12 pounds friction-top pails white bulk comb honey—1st, Scholl Apiaries, $3; 2d, W. M. Jones, $2.

Best 6 pounds friction-top pails white bulk comb honey—1st, Scholl Apiaries, $3; 2d, W. M. Jones, $2.

Best 3 pounds friction-top pails white bulk comb honey—1st, Scholl Apiaries, $3; 2d, Brazos Valley Apiary Co., $2.

Best display of bulk comb honey—1st, Scholl Apiaries, $10; 2d, Smith & Scholl, $6.

Best dozen jars of white extracted honey—1st, W. M. Jones, $3; 2d, Wm. Wiede, $2.

Best dozen jars of light amber extracted honey—1st, J. E. McClellan, $3; 2d, Smith & Scholl, $2.

Best display of extracted honey, granulated form—1st, Scholl Apiaries, $5; 2d, Smith & Scholl, $3.

Best and largest display of extracted honey—1st, Scholl Apiaries, $10; 2d, Smith & Scholl, $6.

Best sample cake of bright yellow beeswax not less than 2 pounds—1st, J. E. McClellan, $5; 2d, Scholl Apiaries, $3.

Best display in special designs in beeswax—1st, Scholl Apiaries, $5; 2d Smith & Scholl, $3.

Best and largest display of beeswax—1st, Scholl Apiaries, $8; 2d, Smith & Scholl, $5.

Best diplay of fruit preserved in honey—1st, Scholl Apiaries, $5.

Best honey-vinegar, with recipe—1st, Scholl Apiaries, $3; 2d, Smith & Scholl, $2.

Best collection of Texas honey-yielding plants, pressed and mounted—1st, Scholl Apiaries, $5; 2d, Miss Meta Hillje, $3.

Best instructive display in apiarian products and of the various uses made of honey and beeswax—1st, Scholl Apiaries, $20; 2d, Smith & Scholl, $10.

Best and largest display of bee-keepers' supplies—1st, The A. I. Root Co., Diploma.

San Antonio International Fair, Nov. 6 to 17, 1909

Golden Italian bees and queen in single-comb observatory hives—1st, Smith & Scholl, $5; 2d, Toepperwein & Mayfield, $3.

Three-banded Italian bees and queen in single-comb observatory hives—1st, Scholl Apiaries, $5; 2d, Toepperwein & Mayfield, $3.

Carniolan bees and queens in single-comb observatory hives—1st, Scholl Apiaries, $5.

Caucasian bees and queens in single-comb observatory hives—1st, Scholl Apiaries, $5.

Cyprian bees and queens in single-comb observatory hives—1st, Smith & Scholl, $5; 2d, Scholl Apiaries, $3.

Holy Land bees and queens in single-comb observatory hives—1st, Scholl Apiaries, $5; 2d, Toepperwein & Mayfield, $3.

Banat bees and queens in single-comb observatory hives—Scholl Apiaries, $5; 2d, Smith & Scholl, $3.

Black queen and bees in single-comb observatory hives—1st, Smith & Scholl, $5; 2d, Toepperwein & Mayfield, $3.

Best and largest display of bees of various races in observatory hives—1st, Scholl Apiaries, $10; 2d, Smith & Scholl, $6.

Best case of white section comb honey, 12 pounds or more—1st, Toepperwein & Mayfield, $5.

Best case of light amber section comb honey—Toepperwein & Mayfield, $5.

Best and largest display of section comb honey—1st, Toepperwein & Mayfield, $5; 2d, Toepperwein & Mayfield, $3.

Best display of special designs of comb honey—1st, Wm. Wiede, $5; 2d, Scholl Apiaries, $3.

Best 12 pounds friction-top pails white bulk comb honey—1st, Scholl apiaries, $3; 2d, Smith & Scholl, $2.

Best 6 pounds friction-top pails white bulk comb honey—1st, Scholl Apiaries, $3; 2d Smith & Scholl, $2.

Best 3 pounds friction-top pails white bulk comb honey—1st, Scholl Apiaries, $3; 2d, Smith & Scholl, $2.

Best display of bulk comb honey—1st, Scholl Apiaries, $5; 2d, Toepperwein & Mayfield, $3.

Best dozen jars of white extracted honey—1st, Scholl Apiaries, $3; 2d, Toepperwein & Mayfield, $2.

Best dozen jars of light amber extracted honey—1st, Smith & Scholl, $3; 2d, Toepperwein & Mayfield, $2.

Best display of extracted honey, granulated form—1st, Scholl Apiaries, $3; 2d, Toepperwein & Mayfield, $2.

Best sample cake of bright yellow beeswax, not less than 2 pounds—1st, Smith & Scholl, $5; 2d, Scholl Apiaries, $3.

Best display in special designs in beeswax—1st, Scholl Apiaries, $5; 2d, Toepperwein & Mayfield, $3.

Best and largest display of beeswax—1st, Scholl Apiaries, $5; 2d, Toepperwein & Mayfield, $3.

Best display of fruit preserved in honey—1st, Scholl Apiaries, $5; 2d, Toepperwein & Mayfield, $3.

Best honey-vinegar with recipe—1st, Toepperwein & Mayfield, $3; 2d, same, $2.

Best collection of Texas honey-yielding plants, pressed and mounted—1st, Scholl Apiaries, $5; 2d, Miss Meta Hillje, $3.

Best instructive display in apiarian products and of the various uses made of honey and beeswax—1st, Scholl Apiaries, $20; 2d, Toepperwein & Mayfield, $10.

Best and largest display of bee-keepers, supplies—Toepperwein & Mayfield, Diploma.

Grand special award, best entire exhibit—Scholl Apiaries—Diploma.

Chaff Packing for Wintering Bees

BY G. C. GREINER.

The various methods of wintering bees successfully have been for years a source of many animated discussions among professional bee-keepers, but to this day a satisfactory solution in every respect has not been reached. Bee-cellars have certain advantages, and where suitable ground for their construction is available, they are certainly paying investments for the specialist. Wintering on the summer stand with proper winter protection has also its good points, and for the amateur bee-keeper with only a limited number of colonies to winter, it is probably, taking everything into consideration, the most advisable management.

As it is not the object of this article to discuss the pros and cons of either method, we will assume that wintering on the summer stand has been decided upon, and with a view of giving some helpful hints to the beginner or prospective bee-keeper, who may look to us older ones for information, I will express a few thoughts based on many years of practical experience along this line.

We will take it for granted that wintering bees outdoors in single-walled hives, without some kind of winter protection, is extremely risky in this latitude—Western New York—or climates of like nature. I do not claim that chaff-packing is under all conditions an infallible safe-guard against all winter losses, neither is it probable that no extra protection will always cause a colony to perish. There are other conditions—some beyond our control—that determine the fate of a colony, but I know from experience that a good chaff-packing will go a long way toward keeping a colony comfortable during a continued zero spell, when under like conditions, without protection, disastrous results may be the consequence.

We have two distinct methods of providing chaff-packing for our bees; one may be termed permanent, and the other adjustable. A small number of my colonies are in what we call chaff hives for single colonies; although home-made, they embody the regular chaff-hive principle (permanent packing), as those put on the market by all our established bee-supply manufacturers. While they are all right for wintering, they are too heavy and cumbersome to manipulate conveniently, and, what is still more objectionable, they are not readily accessible. For the small bee-keeper, who has no desire to investigate the inside of a hive or manipulate his bees in a professional way, they are preferable on account of being less work to prepare them for winter, or summer either. But to handle bees on a larger scale, and no obstructions to contend with, I prefer the adjustable packing, which admits of being removed during summer.

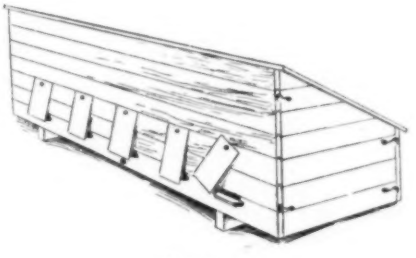


Fig 1.

To make this practical, I use for winter quarters temporary sheds (see illustrations Fig. 1 and 2). They are made

American Bee Journal

in separate sections, held together by 4 wire hooks on each end and one square-headed wood-screw at the middle of each side at the bottom, to keep them from spreading when being filled with chaff. It is not strictly necessary, although convenient for handling and storing, that they should be made adjustable throughout. An adjustable top and back is all that is needed for placing the hives inside the shed. (See back view, Fig. 2.)

With the exception of a few smaller ones, to use when the regular number of colonies is not available, at the end of a row for instance, all sheds are made to accommodate 5 colonies each. Several reasons induced me to make them that size. It takes less work and less lumber to make them, and, when made, less work to use them; it does not seem to take more time to fill a shed with 5 than one with 3 colonies. Then, the common length of lumber cuts to better advantage for that size than for any other, unless we make them larger, which would not be desirable for convenient handling. Other advantages could be enumerated, if it were necessary.

Taking a view of Fig. 3, the following may serve as an explanation:

The top row represents a row of 5 colonies of bees in summer position as

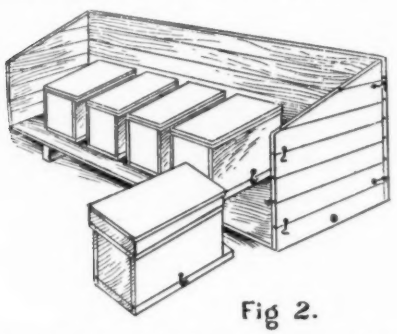


Fig 2.

they can be found in any up-to-date apiary; the distance between them is about 2 feet, which is necessary to give the operator ample elbow room when performing the various manipulations in connection with modern bee-keeping. The bottom row represents the same 5 colonies in the position they occupy when placed in their shed. It will be noticed that they have to be moved quite a little distance to produce this change, and if this was done at one operation, changing location and appearance at the same time, many bees would be lost. To make this plain, let me digress a little.

Bees mark and know their home by location. Appearance has a little bearing on their observing faculties, but in comparison with the former, it is of little consequence. For instance, if we should paint a white hive black during the night, it would confuse the incoming bees next morning very little. They might be somewhat surprised at first, perhaps be a little suspicious, but they would soon enter their hive as usual. But if we should move a hive a short distance to the right or left, and watch the bees next day, we would see many of the flying bees hovering over their former stand, looking for their home, and if other hives of the same appearance were nearer than their own many bees would enter them and be lost. It would take some time until all the bees would be fully acquainted with the change. Now let us make the two changes at once—paint and move the

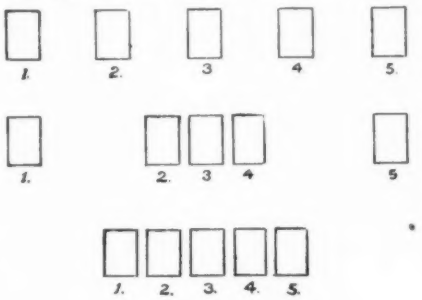


Fig 3.

hive at the same time—nothing short of complete bewilderment would be the result.

To save all our bees (and we have none too many at that time) we should take this feature of bee-nature into consideration when changing our bees from summer to winter location. The middle row of Fig. 3 shows the first change that should be made. Hives 2 and 4 are moved near the center hive 3. They should remain in this position for several days, until the bees have become thoroughly accustomed to the change. Then the two outside hives, 1 and 5, may be moved to their proper places, which prepares them all for the final housing. At the close of the last honey-flow is the proper time to do this moving.

The best time of packing bees for winter is during November, whenever the weather is favorable. Cool nights and mornings, when the thermometer registers nearly freezing point, but no frozen ground or frozen-down hives, when the bees are well clustered in their hives, no rain or snow on the ground, dry weather overhead and no heavy wind—these are the features of ideal weather for this work.

When everything is ready for the job, we may proceed in the following way: Set the hives on the ground a little ways back of their stands; clear the ground for the shed bottom and place it on suitable foundation blocks. Build up shed with ends and front (see Fig. 2), and move the hives back to their old place, which is now inside of the shed. It takes only a few minutes to do all this shifting about, and if it is done carefully, without jarring the hives, not a single bee will be seen outside the hives during the operation.

The drawing shows the hive on this end of the row still on the ground. Its telescope cover has not been removed yet; when this is done, as it is the case with the other hives, this last one may be placed alongside of the others inside of the shed. This completes the particular part of the work; the rest, adjusting back section, filling in chaff and laying on cover, which can all be done more leisurely, finishes the job. The chaff should be about 3 inches all around, and 6 inches over the top of the hives.

The entrances of our sheds are ⅜x4 inches, and each one has a little flight-board of about 1½x6 inches. A little board is fastened over each entrance by a screw at the upper end, letting the lower end rest against the flight-board and allowing it to be swung aside (see drawing) when a free passage for the bees is desired. But for common, during cold wintry days, its object is twofold. When the wind is facing the shed, it prevents a direct draft into the entrance, which would cause a circulation of too much cold air through the hive. On pleasant but cold days it also prevents the direct rays of the sun tempting the bees to take a flight, when they would be chilled before they could return to their home. Many bees are lost in this way.

La Salle, N. Y.

Bee-Keeping in Old Mexico

BY B. A. HADSELL.

Having a son who has lived in that wonderland for years, and his glowing accounts of its great possibilities as a bee, farming, stock, and mining country, exciting my curiosity; and when he reported that I had a grandson down there, I could not resist longer a trip of investigation. I have traveled almost the entire length and breadth of our sister republic, and must confess the half has never been told, and so I will give the readers of the American Bee Journal the benefit of my investigation. While I am supposed to be the largest bee-keeper in the world, I believe there are two or three others that have more. I am a close observer, and have traveled nearly all over the United States, and if my experience is of any benefit I will give it freely.

I formerly supposed that the sage district of California, the mesquite district of Texas, and the mesquite and alfalfa district of Arizona, could not be excelled. But this trip, as seen from a car window, by days of hard horseback riding among the mesquite, and a continual series of blooming trees, shrubs, vines, and herbs has changed my mind. I have often been made to exclaim, "A bee-man's paradise!" and I assure you I will not "let you down" as other writers have done when writing of the good locations in the United States, by saying at the wind-up that the territory is already fully stocked! but, on the contrary, I go hundreds of miles here where there is not a single tame bee to be seen.

As yet, I have not had the privilege of examining a colony of the native bees which are stingless, but will try to do so and report in my next letter. I am now inspecting a section where the temperature ranges from about 70 to 85 degrees, July and August being the coolest, and April, May, and November being the warmest months. The bees gather honey every day of the year. I am not prepared to say when the greatest flow would be, as nearly every tree and shrub produces bloom. The farmer can plow, plant and harvest his corn every day of the year. Usually only a stick is used to plant. Some use a wooden plow. I saw 3 crops on the land at the same time, two of corn and one of beans, as they plant between the

American Bee Journal

rows and seldom cultivate. A hoe is unknown, or at least I haven't seen one.

Morning-glories of many varieties climb the trees 40 feet high, cover the bushes, fences, and shrubs where the timber is not too dense, and the open land thousands of acres of catnip, now in full bloom, from 3 to 8 feet high. Frost is unknown in the southern half of Mexico, yet it is cooler than the summers of the United States. Irrigation is not needed.

I have my ticket to the end of the railroad south, which is the Guatemala line, and will see the sights and then return to my home at Buckeye, Ariz.

(To be continued.)

[No doubt our subscribers would be be glad to hear further from Mr. Hadsell, not only as to the bee-keeping opportunities in Old Mexico, but as to the extent of his apiaries in the United States, his honey crops, varieties of bees used, etc.—EDITOR.]

Overstocking a Locality With Bees

Read at the New York State Bee-Keepers' Institute, held at Geneva, N. Y., March 10 and 11, 1909.

BY W. D. WRIGHT.

The majority of apiarists pursue their avocation with the purpose of securing the greatest income from their apiaries; hence, where the business is followed extensively it becomes a matter of serious import to the owner as to what extent he may increase an apiary in a certain locality, without danger of overstocking the same and thus decreasing his profits.

This subject has been discussed time and time again, and has been a problem with many extensive bee-keepers, and, owing to varying circumstances and different view points, has never been satisfactorily settled and probably never will be; however, the apiarist who possesses the qualifications necessary to insure success will usually avoid extremes.

There are so many factors entering into the case that no rule can be established setting a limit on the number of colonies in one apiary. This must be a matter of experiment and observation. A most important consideration is the honey-yielding flora of the locality. Some locations would be overstocked with 100 colonies; in others 200 or more colonies might give satisfactory results in a very good season. Then, again, in a poor season, when these 200 or more colonies gather a sustenance in summer and just enough for winter stores, giving no surplus, would it not be reasonable to suppose that if but 100 colonies had been kept in this apiary they would have given as surplus the bulk of which the other 100 or more colonies required to sustain themselves? If this supposition is correct, then in the first instance there would be the loss of labor in attendance, interest on investment, etc., while in the second a good profit would be secured.

These illustrations are given on the supposition that no other bees are kept within a radius of 4 or 5 miles. Where many others are kept within this distance, the apiarist must expect to divide his profits with his neighbors.

Many years ago Mr. Adam Grimm, of Wisconsin, one of the most successful bee-keepers of this country, who owned some 1400 colonies at one time, after experimenting largely with many apiaries in different localities, wrote thus in the American Bee Journal:

"There is no question with me any longer that the smaller the number of colonies kept in one location the greater will be the yield of honey from a single colony. But the question is not, how can a bee-keeper secure the largest yield of honey from a small number of colonies, but how can he secure the largest income by keeping bees? In answer to this question I will say, by keeping and managing well a large number of colonies scattered in different apiaries, none of which should contain more than 100 colonies in the spring. If he could arrange so as not to start with more than 50 in one location in the spring, it would probably be all the better. If placed 3 miles apart there will be no danger of overstocking in ordinary seasons."

Mr. E. France, also of Wisconsin, and father of N. E. France, the present manager of the National Bee-Keepers' Association, wrote to Gleanings in Bee Culture a number of years since, as follows:

"If you plant out-apiaries don't put them less than 5 miles apart if you can help it. If you are going to keep help at the separate yards to run the bees, 6 miles apart is near enough; then if the pasture is good you can keep from 100 to 150 colonies in each place."

In speaking of travel to out-apiaries, Mr. France further says:

"Remember when you are locating an apiary, that when you are hitched up and on the road, one or two miles further travel will pay you better than to crowd your pasture. Don't overstock your ground."

Such advice from extensive honey-producers, of long experience, is worth many dollars to ambitious apiarists of lesser experience who will heed it.

The most striking example we have in this country of concentrating large numbers of colonies in a single apiary, is that of the late lamented Mr. Alexander, of Delanson, N. Y. This apiary usually contains about 750 colonies, fall count, and in good seasons I believe the result has been quite satisfactory, although the average yield per colony has not been very large, the grand total being quite surprising; but I believe as good results could have been obtained with fewer colonies, perhaps one-half of that number: however, we lack the necessary data.

I am glad that Mr. Alexander had the courage to put this matter to the test, as the experiment has been of much interest to all apiarists.

I might mention the Hetheringtons, the Coggshalls, Elwood, Dadant, and others, all of whom have kept bees in large numbers, and who have practiced distributing them in numerous apiaries from 3 to 10 or more miles from home. It certainly would have saved a large amount of labor and expense for each could they have concentrated their whole number of colonies in one or two apiaries; and if there would have been profit in such proceeding, is it not singular that all of these bright men, after their wide experience, failed to discover the fact?

Finally, I would say avoid extremes, and if your calculations are in error let that error be upon the safe side.

Altamont, N. Y.

Getting Ready for the Surplus Honey Crop

BY G. M. DOOLITTLE.

Many of those keeping bees seem to think that there is little, if anything, to do in the bee-business after the bees are gotten ready for winter till swarming time arrives the next summer. But such is not the case with the prosperous apiarists. Such know that it is better to do all that they can toward getting ready for the surplus season during the winter, and then if there is time after all is in readiness they can rest up a bit and turn their attention to something else.

My first business, after the bees are in winter quarters, is to go over all of the surplus supers and prepare them for the next season. I did not do this for the first few years, for fear that the bees might die during the winter, and if so then I would have prepared a lot of stuff I would have no use for. But after putting this matter off a few times till the honey harvest arrived, I was caught by having the best part of the season past while I was getting ready for it. From this I learned that it was always best to have the "dish" right side up to catch the honey. A few days' neglect of this will often turn what might be a good season and a success into a failure.

Then, time with the bee-keeper is not nearly so valuable during the winter months as it is in the hurry and bustle of the swarming and surplus season, and, from this point of view alone, the bee-keeper can well afford occasionally to carry over a lot of unused stuff rather than to be making it when time is as valuable to all of us as it is in June, July and August.

My first work in preparing for the next season is to prepare the number of sections which I think I will need above those left unfinished from the season previous. To get at this number I allow 200 one-pound sections for every colony I have in winter quarters; not that I very often have that many filled in one season, but I do occasionally, and when that occasionally comes, they cannot possibly be filled if I do not have them on hand.

Having the sections made the next thing is go over 25 to 50 supers, cleaning the separators or any parts of the super where an extra amount of propolis or burr-combs may have accumulated, thus fixing them so they are ready for the sections, after which the sections are filled with thin foundation to the number needed for these supers, when the supers are filled with sections ready to go on the hives at a moment's notice when I decide according to the opening of the bloom and the strength of the colony that they are needed. Before putting these newly-made and prepared sections into the supers I count up the number of sections I have containing "bait-combs" (those partly or entirely filled with comb, but which were not completed so as to be salable, left over from the previous season), and divide them by the number of colonies I have in winter quarters, so that in preparing the super which is first to

American Bee Journal

go on each colony the average number of these baits can be used in each.

I prepare in this way only one for each colony, as after any colony gets well started to work in a super, baits used afterward seem of little use. Of course the readers all know that these baits are used to entice the bees into the super quicker than would otherwise be the case, as bees will occupy and store nectar in combs which are built out several days before they will go into an empty super and begin building new comb or even working on foundation. Where I can have things just to my liking, I use 8 baits in each super in which any baits are used. I use 11 wide frames holding 4 one-pound sections each to each super, so if I can have 8 baits for each super I have 2 wide frames filled with these baits, when I place one wide frame full of sections with foundation next to the side of the super, then a wide frame of baits following this with 7 wide frames of sections filled with foundation, then another of baits, and lastly one with sections filled with foundation; when the "follower" board is put in and the 11 wide frames keyed tightly together, when the super is ready to go on the hive as soon as the season opens.

I put these baits in thus, for the reason that the tendency of any and all colonies is to commence work in the center of the super or directly over the brood of the hive, which cause the center sections in the super to be completed quite a little before those at the sides are nearly ready to come off, and thus much valuable time is lost to the bees, while the completed center sections get travel-stained and not so marketable, from being completed so long before we can take the whole super off ready for market.

With the baits placed in the super as above given, the whole number of sections in the super are completed at once, the bees being enticed to each end of the super when they first enter it, so that the wide frame of sections beyond the baits is completed as soon as are those in the middle, and thus we can tier this super up, put others over it, or take the completed whole off without interfering in any way with the objects we wish to accomplish. I know we can secure nearly the same thing by having crowded colonies when work in the sections is going on, but such crowded colonies are not able to secure as much nectar as will those which are enticed along, while the crowded colony is much more apt to contract the swarming fever, in which case we will not secure more than half as much as would otherwise be the result.

I have dwelt on this matter more largely than I otherwise would, because I find that very many bee-keepers, especially beginners, pay little if any attention to the matter of having all of the sections in a super completed at as nearly the same time as possible, and without crowding the bees so as to lose a part of the nectar flow, or else have the bees contract the swarming fever, or both.

Having all of the supers which are to contain baits completed, the next thing is to fill all that are left with sections filled with thin or surplus comb foundation, when all are to be piled away in their proper places ready to be used in an hour or so when they are needed.

Then I next go over all unoccupied hives, and make new when new ones are needed, repair anything and everything about the apiary which needs such repairing, till everything that needs attention to make it in perfect order for the coming season has been looked after. In this way my time will not only be spent much more profitably, but much more enjoyably, than it possibly could be by allowing other things to take my attention during the winter and spring, and crowding all of this preparing into the surplus season, which is sure to result in a diminished crop of honey, and through this a lack of love for our chosen pursuit; which lack is sure to produce only a second-class apiarist.

Borodino, N. Y.

A Large Wisconsin Apiary

BY H. C. AHLERS.

EDITOR YORK:—I send you the engraving of "High View Apiary," which, I think, is at present the largest *individual* apiary in Wisconsin. An outapiary contains 73 colonies.

I have the 10-frame hive in different styles, all taking the Langstroth or regular Hoffman frames. Some 8-frame hives are made to interchange with the 10-frame by attaching ⅞-inch strips on either side, top and bottom.

The hives are arranged in pairs, 16 inches apart, and 32 inches between the pairs, facing south. Each row contains 30 hives. Each hive rests on a concrete block, 16x28x2½ inches. The hives are mostly 3 and 4 story in the busy season. The extracting supers contain but 8 or 9 combs each.

I had 2000 new combs built out, consequently my crop is only about 14,000 pounds from 281 colonies, spring count, mostly extracted; 2000 pounds of this being damaged by about 5 percent honey-dew. My bees had to fly from 1½ to 2 miles to the hickory.

"Protection Apiary," one mile further away, gathered no honey-dew.

Our flow was very slow, but lasted from June 20 to July 26. On account of this slow flow, and building new combs, the first supers were filled with brood where hives had no excluders. These hives made up the loss, however, during basswood bloom.

I don't sell honey cheap enough to sweeten near home, so I am beginning to sweeten Chicago and further away.

West Bend, Wis., Aug. 25, 1909.

"HIGH VIEW APIARY" OF H. C. AHLERS, TAKEN JULY 26, 1909—223 COLONIES.

The Two Cans of Honey

BY E. D. TOWNSEND.

(*Continued from page 360.*)

There is one place where this artificially cured honey may do; that is, for the baker or manufacturer, as this kind of honey sells for a very low price; we cannot afford to put our clover honey in with this grade. All the baker requires in his honey is a good body. They do not buy high-priced honey for the sweet there is in it; if it was only sweet they wanted they would buy sugar, which is cheaper; the baker uses honey instead of sugar, for the reason that the honey keeps the baked goods moist for a long time. The fact is, some of their baked goods, sweetened

American Bee Journal

with honey, are even better after a year old. If they had used sugar instead of honey in these same goods, they would have dried up and spoiled in a week.

So I have concluded, Dan, that as long as I produce honey for table use I will try to get it in the very best possible shape I know how, then if circumstances should change—*i. e.*, should I ever have bees in a location where the honey was not fit for table use—then it would be time to experiment with artificial ways of curing honey.

Then you mentioned, Dan, that you would save the expense of more upper stories, etc., by this one upper-story system; don't you know that to fix up a suitable place to cure honey artificially it will cost you much more than the few extra upper stories you will need, to hold your whole crop of honey?

You will need a special building, and it ought to be one story and painted black; this to draw all the sun-heat possible. Then, to be on the safe side, you ought to have a good heating stove to be used during damp or rainy weather; then a system of ventilators so arranged that they can be opened in good weather and closed nights and damp spells. The fact is, this matter of evaporating the water out of honey must be attended to constantly; and the expense of the large, wide-surface tanks, fuel, extra labor, etc., will more than offset the cost of a few more upper stories to hold the crop. Then, after you have gone to all this expense and labor, and worked your bees on this system one season, mark my word, you will draw a long breath and think the bees could have done it cheaper. Then another thought that is very appropriate right here; that is, that the advocates of artificially cured honey never claim for their production an article that is superior to that cured on the hive by the bees. Isn't it the case with every imitation, the product is claimed to be *just as good* as the genuine, but is *never* claimed to be superior? Better produce the genuine.

In this conversation Mr. Green had little to say; one could see there was something on his mind; he was not quite satisfied; the enemy had put up a strong talk; he could imagine with what ease and comfort it would be to extract without a single comb to uncap. Then twice as much honey kept coursing through his mind; no stings—this was a good point, he never could relish the idea of being stung; the bees would handle like kittens.

Spring came in due time and found Mr. Ripe with all his new upper stories nailed up and painted, and the frames filled full of foundation; in fact, he had bought an extra number this year, as the prospects were very flattering for a bumper crop of honey, and he did not want to be caught without plenty of upper stories to hold all the surplus honey the bees might carry in an extra-good season, for he was heard to say that the upper stories would keep if they were not used this year.

Mr. Green was not very talkative this winter and spring; the fact is, you would hardly have known he had any bees, his time being wholly taken up on the farm, for why should he worry about the bees? Didn't he have all the supplies he would need? There was even more than one upper story to the colony since those 5 colonies became queenless and had to be united; for couldn't he use those 5 sets of combs to extract from? He hadn't even made any provisions for extra tank-room, thinking he could pick up enough storage around the house, and of course he would have the two barrel tanks that he had always used to separate the scum from the honey in previous years.

Neither had there been any special evaporating house built, for wasn't the extracting house he had always used hot enough to evaporate honey in? One would have thought so had he been in there one of those hot days when the extracting was going on. But he reasoned wrongly, for a non-ventilated house, although warm, would not be the place to evaporate the water out of honey, for you would have to have a circulation of dry air to carry off the damp-laden air of the room before much evaporating would be accomplished.

Then the specially constructed ventilators that would be necessary would have to be "handled;" that is, they would have to be closed during nights and rainy weather, and opened during dry, clear weather; then some provision for artificial heating should be provided to be used during this damp weather, as I have mentioned before. All these things were left undone—a condition we should expect with the average bee-keeper were he to undertake to produce honey on this plan.

It was June 22d; the bees had been carrying in clover honey at a "pretty good hickory" for about 10 days.

It was supper time at Ripe's. Mr. Ripe was just sitting down at the table, when Mrs. Ripe casually observed that Mr. Green had called that afternoon and got the extractor. Their eyes met, and in that short space of time both knew what the other was thinking about; no words were necessary.

As Mr. Ripe was spreading his bread with some of his well-ripened, heavy-bodied, aromatic, "left on the hive all summer" quality of honey, fit to set before the President, but still a luxury he was enjoying "as the fruit of his own labor," he asked his wife if Dan had anything to say in particular when he called for the extractor. No, only he "might want to extract some before long," and as he had his team with him, he would take the extractor along.

The next day, *June 23d*, as Mr. Green was looking over his bees he found some colonies that had their upper stories nearly full, and had begun to cap the first honey brought in. Wasn't this the time to begin extracting? The most advanced colonies would soon be full and need more room, perhaps, for all he knew; before another day the hives would be full and need additional room. Wasn't the extractor right in the extracting house this very minute? Yes, he would do it, just a couple of upper stories—one 60-pound can. It did not take much smoke to subdue the bees, and they did not seem to mind it a bit when they were shaken from the combs; it seemed to Mr. Green that the bees just fell off the combs, and, as they took wing, went directly to the field for more honey.

Then the upper stories were not so heavy to carry to the extracting house as usual!

The slickest part of the whole business was in uncapping and extracting, for there was almost none to uncap, and how easy it did extract—just two or three turns and it was done; not much like the long, hard turns Mr. Green could well remember they had to do to get the thick honey out of the combs in years past. He felt almost jubilant. No more of the old, laborious way for him.

Then he bethought himself of the fast age we were living in, how fortunes were made in a day; visions of watered stock flashed through his mind, and he, too, had doubled his "stock," for wasn't it said that all one had to do to double his crop of honey was to use one upper story and extract before it was sealed?

Watered stock, watered stock, kept surging through Mr. Green's mind till it was said that his customers that fall took up the cry, "Watered stock!" and said of his honey that it contained the real stuff; others would say that Green's "watered stock" was not on paper. One said his honey would not have to be boiled down much to make good metheglin.

About a week later Mr. Green examined his first extracting, for be it known that he, from the first, extracted his whole crop just as soon as the bees began to cap in the foremost combs of the one story he used. And what I say of this one can, dated June 23d, I could have said of his whole crop, for it was all taken at the same stage of ripeness—just as soon as the bees began capping along the top-bar of the foremost combs.

I mentioned that Mr. Green examined his first extracting after a week, for surely it ought to be rich and ripe by that time. Then he noticed that if the honey should keep coming in at the present rate, it would be but a day or two before his open storage would be full, and he would have to begin to can some—to make room for more that was now coming fast. This first extracting was given the most open vessels to be found—those with a wide open top—for this might be the greenest to be extracted during the season, so thought Mr. Green; but it so happened that there was no difference in this respect, for it turned out to be a fair average of the crop.

The honey was now cold, and it did appear thicker then when extracted. Mr. Green tasted of it, and it was said that he tasted several times as if not quite satisfied with his own judgment. Could it be—no, it *must* be ripe by this time. "Still, I cannot quite understand that scratchy, raw sensation that remains in my throat after tasting," he mused; "but it must be all right. I'm not quite familiar as yet with this artificially cured honey; it will taste better after I get used to it. Then there are Brown and Smith that are coming after honey tomorrow; I'll draw off this 60-pound can and take it over to the shop so it will be ready."

The scales were balanced on 62½ pounds, as usual, the 2½ pounds being the tare or weight of can; and right here Mr. Green got his first surprise, for, what do you think? that pesky can would hold but 58 pounds net, the best

American Bee Journal

he could do. Green's first thought was that the can manufacturers, too, were watering their stock, or, in other words, were making short-size cans this year. But when he looked he found that the can he was using was not of this season's buying, but was the same as he had used the previous season, with no trouble about their holding 60 pounds net.

At about this time many things passed through his mind, but he could not help thinking but what everything would come out all right yet; at any rate the crop was about half extracted now, and the honey was not so very bad, either.

The next day, true to their promise, the Browns sent their boy after a pail of this new honey. The Browns were one of Mr. Green's best customers, and never lost an opportunity of speaking a good word for Green's honey; they would say to any one who expressed a desire to buy honey, that you "should surely buy your honey of Green, for you are sure, by so doing, of getting the very best the bees make;" that Green is an expert at the production of extracted honey, or something in this strain, and by so doing Green has secured many a good customer through the Brown's recommendation.

This was no news to Green, for hadn't these customers told him, time and again, that the Browns recommended his honey as the best that money could buy? and as they always bought the best of everything, they had come after his honey.

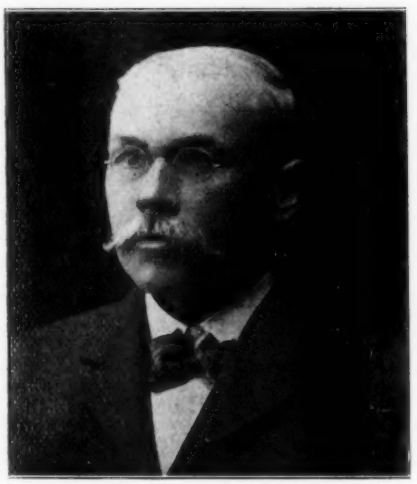
So one can imagine how Green felt when he weighed up this pail of honey and found that it filled the pail rather fuller than last year, and especially when he cautioned the boy to be careful not to slop and spill it; for never before had he put honey on the market that one would have to be careful about how they carried the pail, as to its slopping over on account of its light body.

Green was in sore straits; he usually told his wife of his plans, and if they were working as he expected, and all the particulars, but somehow he did not feel like talking to any one about his honey crop, for, to tell the truth, he was very nearly discouraged; he had not really thought of selling his bees and going out of the business, but somehow he could not help thinking that there was less worry about the farm work than there was about the bees.

It was never this way before, for it was a common expression with him heretofore that he would rather work with the bees than on the farm. This year the work flagged; he did not work with the bees with the same interest as in former years; and with these few upper stories the bees had to be watched more closely than in former years, as they would get their small quarters full more frequently than in former seasons when he had plenty of upper stories to hold the whole crop of white honey, and thus had to extract but once; while now, with this later plan, it did seem as if it took a good part of his time "tinkering with the bees," as he was won't to call it; and this, too, in the very busiest part of the season, when he was needed in the field to help take care of the hay and other crops.

This was something new in his bee-keeping experience, for never before had he spent so much time with his bees—valuable time, as he found out when he came to settle with an extra hand that was made necessary by his being so much with the bees.

Neither was Green deaf to the fact that Mr. Ripe was doing nearly as much work on the farm as if he had no bees; he would see him out with his bee-smoker while the horses were taking their feed; he could see that Mr. Ripe was going over about one-third of his yard each noon, and put on upper stories where they were in need of room. Then the next day another third would be gone over; then the third day he would finish the whole yard. If he was a little crowded for time, or it looked a little like rain, and more hay was to come in than usual that afternoon, you would see that he did not



E. D. Townsend.

even stop to lift up the full story, but, instead, would put the empty story on top, then some later time, when more time was at his disposal, these empty stories could be put below, or there would be but little difference in results, as he knew, if these empty stories were left on top to be filled. But it was his custom to lift the full story up and place the empty one below, and if there was time that he could possibly spare, and there usually was, the empty one from the top was finally placed at the bottom.

With this system of looking over one-third of his yard each day, Mr. Ripe was able to see inside of every colony in the yard every third day—plenty often enough, as the experienced extracted-honey producer will acknowledge, to secure every bit of honey the location will produce.

Mr. Green knew all this, and was troubled; his honey was costing him much more work than Mr. Ripe's, and he knew by the number of upper stories on his neighbor's bees, that Ripe was securing about as much honey as he.

Another thought uppermost in Mr. Green's mind these strenuous times (as he knew by previous experience), was was that Ripe, by having a hand to help him 2 days, would do all his extracting during those 2 days and be through with it, and be ready for any other job that might be needed doing, either on the farm or selling honey, as the case might be. The result was that Mr. Green lost at least 3 weeks in the production of his crop of honey, for this was about what time he devoted to the bees, in addition to the time Mr. Ripe spent with his.

It was the middle of July, and the white honey-flow was over, and Green was through extracting; all his open storage was still full of the last extracting of honey—"'Twas being ripened artificially," he was heard to say.

This was the season of the "harvest showers," and he, like the ordinary bee-keeper, had made no provisions for a fire in his honey-house to keep the temperature up, and thus dry the atmosphere that was very damp this rainy weather; the consequences were that his honey would gather dampness during the wet period—about as much as would evaporate during the fair weather—and he was heard to remark that "he never before realized how much water honey would take up from a damp atmosphere." Even if he had had a stove in the honey-house, how in the world could he have spent the time to have kept the fire going, for wasn't he rushed to the utmost trying to take care of the harvest that was cut and ready to be cared for?

I would not have the reader get the impression that Mr. Green was any more negligent than other farmer bee-keepers (or specialists, either, for that matter), for he was very painstaking, energetic and thrifty, as I have said before; but isn't it the record, that if anything has to be neglected about the farm, it's the bees?

Some may think that the writer has drawn an extreme picture in the above case, and that any ordinary bee-keeper would know better than to try to cure honey artificially, without first making quite extensive preparations for the evaporation of his honey before undertaking to cure it artificially. To this I would say, that in the many honey-houses I have visited, not one in a hundred is so arranged but that honey left in open vessels would get poorer in quality every minute it was left open. It would be much better if it were put into 60-pound cans as fast as taken from the bees. The curing of honey artificially is a trade, and should be undertaken only by those with an extended experience, and then only when one is producing honey for the baker, or for manufacturing purposes; for no one has ever artificially cured honey that had that beautiful, aromatic flavor that honey has when well ripened by the bees.

Then this same honey is improved by its being left on the hive after the season, as long as the weather is warm and favorable, but should be taken off and extracted before cool September weather comes on in this locality.

Of course, if the white honey is followed with a flow from buckwheat or inferior honey, the white should be extracted just before the dark begins to come into the hive. Green knew this, and when the quality of his honey did not come up to the standard of former years he was discouraged. It was hard

American Bee Journal

to describe just how he did feel; it is sufficient to say that he formed resolutions in his mind not to be caught in such a predicament again, even though his favorite journal did publish "such trash," as he called it, when in later years he had reason to refer to this "miserable experience," as he termed it, for, to tell the truth, he was anxious to confess his mistake to Mr. Ripe at this stage of his experience, and did, later on, as you shall see. He would often be heard to say that "there would be some excuse for a beginner, without experience, ignorant of the principles involved in the production of honey, to extract before the honey was thoroughly cured by the bees, but for me—an old fogy like me—to be caught in such a trap is ridiculous, to say the least."

Mr. Green was human, like the rest of us, and it was now time to think about turning his honey into cash. He realized that it was early yet, but his honey crop was ready, if it was ever to be; so when he went to town he called on the groceryman and got some pint jars and jelly tumblers to be filled with honey. In going to town he had to drive by Mr. Ripe's place, and he noticed that Mr. Ripe had not done a thing toward his extracting yet, although it was nearly August now. More troubled thought came through his mind as he remembered how, in former years, his hives used to be tiered up 3 or 4 stories high, filled with the very finest sweet mortal ever tasted. His thoughts were anything but pleasant.

The balance of the 58-pound can of honey was put up for the groceryman; he finished putting up the jars of honey, he glanced out of the window—could he believe his own eyes? The Brown boy was going right by with a pail! He would watch. Yes, there he goes to Ripe's; he is swinging his pail; it's empty. In a moment the boy came out; there was no doubt the pail was still empty. Mr. Ripe had no honey for sale—'twas still on his hives. Green knew he had lost his best customer.

This was only the commencement, for one by one his customers left him and went to Mr. Ripe for their honey, for if they paid their good money for honey they wanted the best, and as Mr. Ripe had the best, and charged the same price for it, he would naturally get the trade.

It was the same at the stores. The groceryman was having trouble with the Green honey; some of his customers would bring a part-full tumbler back and ask him to taste the stuff. Was that the same kind of honey they had been buying of him in previous years? "I guess not," they would say; and when the groceryman would count them back the money they had paid for the stuff, they were heard to order a pail of "Karo." "'Twas as good as honey for less money!"

One lady customer in carrying a bottle of Green's honey home with her other purchases, was horrified when the cork blew out of the bottle of honey and smeared all her other parcels, and some even got on her "best dress." Fermentation had set in, and the agitation caused by carrying the honey had caused it to blow out the cork, with the results as mentioned. Do you think that groceryman was in any way anxious to meet this customer, knowing the experience she had had with the goods he had sold her? and would he be likely to buy any more goods that caused customers to leave his store when he knew where he could buy good goods at not much, if any more, cost than this poor stuff?

After these experiences, is it any wonder that Green had trouble in disposing of his crop of honey?

And who could estimate the damage to the fraternity by the dumping of this ton and a half of poor honey on the market? A thousand honey-eaters sickened of honey for the season, and a lingering suspicion of honey, in general, that might last for the balance of their lives! For, what I have said of this 58-pound can of Green's honey could have been said of his whole crop, for it was all the same.

It was said of Green that before he disposed of his entire crop of 3000 pounds of honey, he drove to all the adjoining towns for at least 25 miles around; and who knows, by so doing, how many bee-keepers were harmed by this poor honey being sold in the territory of others, where some bee-keeper had been working for years, educating the public as to the use of extracted honey?

Let us go back to our old friend Ripe. It was July 31st that Green looked up on hearing the approach of a team, and saw it was Mr. Ripe. He had come after the extractor, and remarked that he thought he would do his extracting tomorrow and the next day. Yes, Green would help him as usual, and Green remarked that he would have asked Ripe to help *him*, only he did his extracting so little at a time that it wouldn't have paid to have him over for so little work.

As was expected, Mr. Ripe's honey was extracted in two days, and part of it put into 60-pound cans. They both had the same arrangement for handling their honey, which consisted of two alcohol barrels with one head removed, and a 1½-inch gate near the bottom, then elevated to such a height as would allow a set of scales, with a 60-pound can setting on top the right distance from the gate, so that the honey would run in to the best advantage. This distance they found by experience was about 2 inches, so if the platform of your scales is 4 inches above the floor, your can 15 inches tall, it would make 19 inches; then the 2 inches to the gate would make 21 inches from the floor to the gate. This would be the right height for the tank. When both tanks are full, should they want to extract more that day, the first tank filled would be skimmed, and enough drawn out so the extracting could be kept up. But they knew that if it could be allowed to stand over night before drawing off, the honey would be as clear as crystal. Of course they would stop drawing at the first signs of scum coming through the gate.

MEMBERS OF THE CANTERBURY BEE-KEEPERS' ASSOCIATION,

Who attended the second annual Field-Day of that Association, held at the apiary of Mr. Ambrose Johnstone, at St. Martins, Christ Church, Canterbury, New Zealand.

They found out by this way of handling that it was not necessary to strain the honey, and as there was nothing to settle to the bottom of the tank, they put the gate clear to the bottom. Arranged this way the honey could nearly all be drawn from the tank before the scum would begin to come through the gate.

It was a noticable fact that Mr. Green would often taste the honey while extracting, and the honey received many a complimentary remark from him on its fine flavor and heavy body; and once, had you been listening, you could have heard him add "bouquet," as if the ordinary language he was accustomed to use didn't quite fit the case.

And such a thought as, "I wish I had one of these 60-pound cans of delicious honey at home for my own use," would flit through his mind, but, of course, it would be unnecessary for me to say he never breathed this thought to a mortal soul.

Holidays came. Mr. Ripe had long been sold out of honey. Green's honey was selling so slowly, and Mr. Ripe's honey being so well ripened and of such good quality, both together, caused Ripe's honey to go "like hot cakes." The fact was, his honey had never been sold with so little trouble as this year.

American Bee Journal

It was now getting the season of the year when Mr. Green knew that honey ought to be disposed of; and knowing Ripe had all his honey sold, Green accosted him one day saying, "I understand your honey is all sold, Charlie. Couldn't you help me to sell mine?"

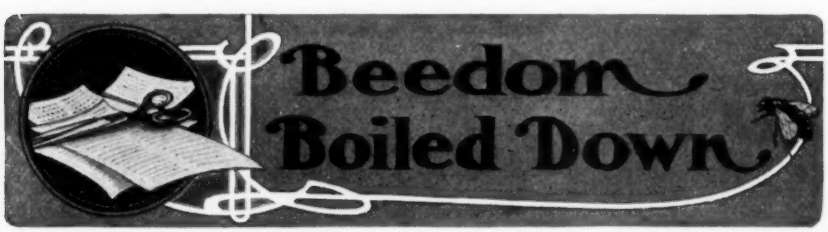
"Certainly, Dan; bring over a sample and I'll see what I can do for you. Mr. Gordon, the groceryman, asked me if I couldn't bring him more honey only the other day. Bring me the sample as I go down there tomorrow."

"Sample, sample; confound the sample, anyway! I've made a fool of myself this year, Charlie, and I might as well own it now as later, for it will come out if it has not already been discovered. My honey was produced on the new plan we talked about last winter, for you likely know by this time that I worked my bees on the one upper story, no-uncapping system, and I'm done with it forever, and I guess I'll never get rid of the balance I have of this season's crop, for, to tell you the truth, Charlie, it has stopped selling, and I do not know what to do, so I asked you to help me out, and when you asked me to bring the sample for you to sell from, I saw at a glance it was all off. 'Twas this way; knowing you had had such good luck selling yours, Charlie, I thought you were the person of all persons to help me sell mine; but I now see that it was not the man, but the *quality of the honey* that did the selling. Surely, Charlie, I have learned a lesson this year that I'll never forget."

Ripe consoled Green with the thought that if he had always produced this kind of honey he would not have known any difference, for he was sure that many a bee-keeper was producing very poor extracted honey who had never tasted a good article, and thus was producing what he *thought* to be the regular grade of honey, when he might, by following a better plan, produce honey that would sell better and bring a better price on the market—a honey that would make customers for the most magnificent sweet on earth when properly produced, rather than produce an article that would be a detriment to the fraternity—a trade-killer.

Thus closes the season for one who is poorer financially but very rich in experience.

Remus, Mich.



Disinfect Foul-Broody Hives.

The editor of Gleanings thinks too much emphasis con not be placed on this point. He says:

While we know our friend, McEvoy, in Canada, claims that the disinfection of a hive is unnecessary, our own experience has demonstrated that foul brood could be (and has been) communicated by the hive alone. We have had reports from Canada, also, as well as elsewhere, showing the reappearance of the disease when the hive itself was not disinfected. While, 99 times out of 100, merely shaking on to foundation is perhaps sufficient, yet if there is one case in a hundred where disease is transmitted through the hive (and we have ample proof that there is), *all* hives should be disinfected. We are glad to note that our government officials stand out square and clear on this proposition.

McEwen's Foul Brood Treatment.

It is a variation of the fall treatment of McEvoy and Alpaugh. It is thus given by Mr. McEwen, in the Canadian Bee Journal:

In the month of August, or early in September, pick out healthy colonies and put on supers of foundation (or drawn comb preferred) that has never had brood in, and which are perfectly dry. Feed sugar syrup till all is capped. About the middle of October choose an evening that is not too cool, so that the bees can get safely into the hive. Take the diseased combs and put them in a boiling vat. Put a sugar sack or anything that is large enough over the hive you intend to winter them in, and put on the cover. Next day raise the cloth to find where they are clustered. Now look at those bees every day, for they will starve if you neglect them too long. As soon as you see a dozen or two drop from the cluster, give them 6 or 7 combs of sealed honey.

Go also to one of your healthy colonies, and take out a frame that has a good supply of pollen in it, so that they will have pollen to start some brood in the spring. The frame that has the pollen in will do for the seventh frame. Six days is the longest I ever had a colony to hang and stand the fast, and I have yet to experience my first failure by this plan. I have never found that starving bees in October has any bad effect on their wintering well. Should I have the misfortune of ever having foul brood in my yard again, I will do all my curing in the fall by the starvation plan. Mr. McEvoy's plan of putting them on the combs at once is a sure cure, but it must be understood that what Mr. McEvoy means by sealed combs is combs sealed to perfection—not one sigle cell is to be left where they can unload their honey. I have found it easier to starve the diseased honey out of them than to get a lot of combs built to perfection.

Wax-Rendering Without a Wax-Press.

O. Mueller, in Praktischer Wegweiser, thus gives his plan of rendering wax that may be convenient for some who have only a small quantity:

"I save up all bad combs and scraps until a convenient time in fall or winter. Then I take a copper kettle such as is common in every household (a vessel of any other material would answer), fill it about a fourth full of water and set it on the fire. While the water is heating, I put in the pieces of comb, which of course are directly melted. After the whole mass is thoroughly stirred up and well melted, I let the fire die out, leaving the kettle on the stove to cool slowly. In consideration for the women folks, evening is the best time to operate. Next morning, when all is cold, a somewhat dirty cake is taken out of the vessel, a large portion of impurities being on the under side. With a knife or spoon the under side of the cake is scraped off, but not so closely as to take any particles of wax.

"Of course there will be left in the cake more or less cocoons and other impurities. Next evening break up the cake and melt it in the same way again. After the third or at the most the fourth time of melting and scraping, there will be left a nice cake of clean wax.

"It is of much importance that soft water be used. If hard water must be used, add a teaspoonful of sulphuric acid to each 10 quarts of water."

The Best Harness Dressing.

Three ounces of turpentine and two ounces of refined beeswax are dissolved together over a slow fire. Then add one ounce of ivory black and a dram of indigo, well pulverized and mixed together. When the wax and turpentine are dissolved, add the ivory black and indigo, and stir till cold. Apply very thin. Wash afterward, and you will have a beautiful polish. This blacking keeps the leather soft. It is excellent for buggy-tops and harness. In England a large amount of beeswax is used by the makers of harness-dressing. The above is the usual recipe.—*Gleanings.*

Gray's Flour-Introduction.

For years it has been more or less the practise in England to unite bees by sprinkling them with flour. Now it is used in introducing queens. Joseph Gray, an Expert in Apiculture in England, says in Gleanings:

I can take a queen from a nucleus, remove the old queen, and have the young queen all right and laying within the hour. A traveled queen or a virgin can be as easily and safely introduced, even though the bees are all alert to seize a leg or wing of the first robber that dares intrude.

To follow this plan of introducing I open the hive, find the comb with the queen on, and remove her. I then lay the comb flat so that both hands are free, dust the bees on the upper side of the comb with flour from a flour-sifter, open the large door of the cage, shake out the queen on to the comb, and dust her with floor. If a flighty queen, I take the precaution to dust her with floor before I open the cage.

If the queen has been removed the day previous, there is no need of removing a frame. I take off the cover, lay the cage on the frames, door upward, and soon a crowd of bees collects around the cage. I dust the lot with flour, swing open the door, when—out steps Her Majesty and attendants, *every one of which will be accepted*—a sure proof of the reliability of the method, for with ordinary plans all attendants are usually destroyed.

Let-Alone Stimulation of Bees.

Not an uncommon thing it is for beginners to ask, "When shall I begin stimulative feeding in spring?" evidently taking it for granted that there can be no question as to the propriety of such feeding. Whatever may be advisable for veterans, feeding in spring for the purpose of stimulating brood-rearing is a safe thing for the beginner to let alone. Indeed, there are not a few of the veterans who think they can do no better than to crowd the brood-chamber with honey the previous season, and then let the bees severly alone the next spring, except in locations where there comes a dearth after brood-rearing has started. Here is what F. H. Cyrenius says in Gleanings:

During my 40 years' experience in trying all plans of stimulation, I believe, all things considered, *abundant* store of *sealed* honey or syrup give the best results.

I will say right here, no doubt we can increase their activity by daily feeding; but after all it is an activity in the wrong direction. The bees are induced to fly in unfavorabl weather, and large numbers are lost. I

American Bee Journal

should prefer a plan to keep them at home during the early breeding season rather than encourage them to fly except for business.

In 1878 the season was considered very unfavorable, as the bees had only about one flight in a week; but at that time mine had plenty of honey, which was rapidly changed into brood. It proved to be a very favorable season for early breeding.

The bees that remained at home reared brood, and were not induced to fly out and die. Right in this connection allow me to call attention to old box-hives unstimulated, undisturbed, but with a good queen and plenty of stores—they outstrip our stimulated colonies every time. Their ambition at this time is to convert as much honey into brood as possible; and any man who thinks he can help them at that time of year by spreading their brood, etc., is making a great mistake.

Buckwheat Profitable.

H. B. Harrington, who has had 40 years experience in raising buckwheat, esteems it highly as a honey-plant "from the middle of July, when basswood and clover are past, up to the middle of September, when the fall bloom of wild flowers commences." He says in Gleanings:

Very hot weather will sometimes blight it if you sow too early, and early frosts destroy if you sow too late in the season; so you see you have a seed time from the 20th of June to August 1; and we once harvested over 40 bushels of very fine buckwheat per acre from a crop drilled on the 4th of August; but we used over 300 pounds of first-class blood-and-bone phosphate per acre.

Now to bee-keepers who want the crop for honey. Plant the crop at three different times to prolong the honey-flow, and you will be sure to hit the lucky time for a good field of grain. Buckwheat, on an average, will occupy the land about 60 days. It will commence to yield honey in 15 or 20 days from the time it is planted, and take about 10 days to mature after the honey-flow ceases.

Sow the first crop on the 20th of June; the second crop on the 4th of July, and the third on the 18th of July. We pick the 18th because the best crop we ever raised was sown on that day.

Buckwheat is the greatest weed exterminator that a farmer can use. Plow in June and till well, and two crops will exterminate and clear any fild of Canada thistles.

Bees and Honey in Mindanao

Dr. F. D. Clum, of Cheviot, N. Y., who has a son in the Philippine Islands, has kindly sent us the following article on "Bees and Honey in Mindanao," written by Willis Lynch, and taken from the Mindanao Herald, published at Zamboanga, P. I.:

There are two distinct classes of native wild honey-bees (Apis Indica and Apis Zonata), in Mindanao, in addition to the Italian bees recently introduced from Australia.

Apis Indica, or "Mee Mesa" as it is called in Indica, is a small, yellow hive-bee about onehalf the size of the Italian bee. It is found throughout the entire tropical Orient. It builds its combs in hollow trees and sometimes stores several pounds of excellent honey. They are very nervous bees, very much inclined to swarm, and also to sting if disturbed, yet they are industrious. They protect themselves well from ants and other enemies, and as they can be very easily domesticated, it is probable that they can be bred up.

When we consider the treatment that the native bees have received for countless ages from the native it is strange that they have any good traits left.

Apis zonata is a very large variety of honey-bee, with fine white bands across the upper part of the abdomen. This bee is found only in the Philippines. Its cousin, Apis Dorsata, is found in Borneo and Southern Asia and is much smaller, besides possessing several other traits that make it an inferior bee to the Philippine variety.

Apis zonata, or the large Philippine bee, builds on the outside of the tree instead of the inside as the other bees do, usually on the under side of a slanting tree or branch. They are not migratory as the Borneo and Indian bees are, nor do they always select high trees to avoid honey-bears as their Borneo cousins have to do. They frequently store several pounds of good honey, yet they are greater wax-producers.

They are exceedingly vicious when disturbed, often following their disturbers for several minutes.

This bee is probably the largest and also the strongest of the entire honey-bee family. Its wing power is about double that of the Italian bee, while it lives several times as long, and a sting or two from it will cause a person to see stars in broad daylight.

Their combs sometimes attain 4 or 5 feet in diameter, and are entirely covered with a thick mass of bees arranged as the shingles are on the roof of a house, their wings pointing downward.

This bee is a true Filipino, that is, it sleeps during the hottest part of the day and also on dark nights, though it works very diligently during the early morning and the evening hours, while on moonlight nights it frequently works all night. It is doubtless the only honey-bee that is partially nocturnal.

All atempts to domesticate this bee have thus far failed. The bees will not remain long in a box or hive if placed there. Italian bees will accept a small amount of the sealed brood or young bees of the Apis Zonata and care for them, but if large amounts of this brood are given the Italian bees they will kill off the young ones as soon as they hatch, to keep the young savages from eating up the prepared food of the young Italian bees. It is very probable that this large bee will be domesticated in the near future.

The Italian bees recently imported have done remarkably well on Basilan, fully as well as they would have done in California or any other first-class bee-country.

Mindanao has not the strongly marked wet and dry seasons that are found in other parts, and for that reason has almost a continuous flora of one kind or another; and particularly is this true where rubber, cocoanuts and bananas are planted. In addition to the last-named honey-plants there are large forest-blooming trees that produce an abundance of honey at several intervals during the year.

No country offers more favorable prospects to the practical bee-keeper, the man who keeps a few bees to produce his own honey, or the scientific student of bee-culture, than Southern Mindanao does.

Condensation of Nectar

By what means is the watery nectar that bees get from the flowers reduced to the rich consistency of ripe honey? Years ago A. I. Root recorded that he saw the home-coming bees ejecting minute drops of water as they approached the hive. Dr. K. Bruennich, in Gleanings, confirms this view, and gives his conclusions in the following words:

"The thickening of nectar into ripe honey is not a matter of evaporation, but results from the ability of the honey-sac of the bee to withdraw a part of the water. By the transferring of the honey in the hive it loses by degrees its superfluous water, and is, at the same time, inverted and enriched with formic acid and albumen."

Value of Bees to Fruit, Etc.

C. G. Chevalier, of Baltimore, clipped the following from the Baltimore American, which, although not new, is of general interest, having been writted by a London reporter:

The busy bee, despite the precautions which fruit-growers take to keep it away from their fruit, and despite the unreasoning anger of the people whom it stings, is a misjudged insect. In fact, it is a philanthropist, cleverly disguised. Mr. Walter F. Reid, vice-chairman of the British Bee-Keepers' Association, explained in a lecture at the Royal Horticultural Hall yesterday.

He told of the elaborate precautions he had taken to keep bees from his fruit. He covered a gooseberry bush with muslin. The result was there were no bees, and practically speaking, there was no fruit. At least, the bush yielded only 6 berries, while two neighboring bushes which were uncovered bore 151 and 167 respectively. A fruit-grower, he added, who saw that bees were not so bad as they had been painted, actually encouraged them to visit his fruit. He placed hives of bees among the trees with the result that his crop increased fourfold.

The reason, Mr. Reid declared, was that the bees, passing from one plant to another, distributed pollen which fertilized the blossom. "It is estimated," he said, "that one maize plant would produce 50,000,000 grains of pollen, and in the course of a single journey a bee would visit several thousands of blossoms."

Another point in the bees' favor mentioned by Mr. Reid, was that when people were stung by bees once or twice they became immune from bee poison and also other poison. Sir Albert Rollit said that this theory probably gave rise to the belief that bee-sting was a remedy for rheumatism, which was, after all, only a kind of poisoning.

Triple Crop for Bees

A. I. Root, in Gleanings in Bee Culture, says:

In our locality we have never failed with crimson clover when put on good ground in August. It always stands wintering. Now, by using crimson clover, rape, and turnip, all three, we should have three chances for honey, and it is hardly likely that all of them would fail. All three are valuable for feed for all kinds of stock, and they are spendid for turning under to enrich the soil.

The turnip recommended is cowhorn or seven-top.

Not a Blooming Bee-Hive

E. Brubaker, of Philadelphia, has sent in the following on "honey," from the Philadelphia Bulletin, which he thought might be interesting to our readers:

"That was an error," said Senator Beveridge, apropos of an opponent's argument, at a dinner in Indianapolis. "Our friend made an embarrassing error. He reminds me of John Winslow.

"John Winslow spent his honeymoon at Niagara. He left the bridal apartment late one night to bathe, and on his return knocked, as he supposed, on his wife's door, calling softly:

"'Honey!'

"There was no answer. Winslow knocked again.

"'Honey!'

"Still no answer. Winslow thundered on the door.

"'Honey!' he cried, in a voice of agony.

"Then a reply came at last.

"'Sneak, you blooming idiot!' a male voice growled, 'This is a bedroom, not a blooming bee-hive!'"

Clay to Stop Cracks

The best thing that we have ever found for stopping up cracks with when using escape boards, is good stiff clay, the kind that is real sticky when wet. We take a good sized piece and wet it and mix and work it with our hands until we make a sort of dough of it, then every time we put the escape-boards down, we go over all the supers above the escape-boards very *carefully*, all the way around the top of the super, under the cover, all the way around the bottom where it sets on the escape-board, we look all the corners over; in fact, every seam and crack about it, and plaster up every place that a bee could possibly squeeze through.

The bees will not touch it when it is wet and sticky, and when it dries it is so hard they *can't* dig it out.—ELMER HUTCHINSON in Bee-Keepers' Review.

Splints for Extracting-Combs

H. E. Crowthers, in Gleanings, gives the following emphatic testimony to the value of the Miller splints:

The use of splints with foundation is a big advantage, right at this time, in stiffening the combs at their weakest point, which is two inches below the top-bar. We used some in several different ways last year, and will use them on all full sheets this year with two wires and four splints about 5 inches long for Langstroth frames. Of course, the main advantage in their use is in the prevention of sag in the foundation,

American Bee Journal

and the securing of worker-cells in the upper part of the frame instead of sagged cells that are not fit for worker brood-cells. It will pay to use splints for the one advantage of stiffening the comb for extracting, because they save the combs from breakage.

In our experience last year there was no trouble caused by bees gnawing at the lower end of the splints; but I see no use for the full-length splint, and the short ones are easier and more quickly applied.

Light brood foundation with splints gives a much stronger comb for extracting the first time than wired medium brood foun dation.

European and American Basswoods

The American basswood blooms earlier than the European by at least ten days. About the time the American basswood begins to go out of bloom, or a little later, the European commences, thus extending the season. It seems to me that the European is more prolific in bloom than the American, and I think that the tree begins to bloom at an earlier age. The European basswood begins to bloom at from five to eight years of age, and being of quite rapid growth, it soon makes a tree of considerable size.

It would be quite possible to select a very early-blooming American basswood and a very late European, thus extending the season still more. If bee-keepers would give a little attention to this matter they might be able to lengthen out the season several days; but it would be necessary, when trees of an earlier-blooming and later-blooming habit were found, to propagate by budding or grafting, which is not a difficult process in the case of the linden.—PROF. W. J. GREEN, in Gleanings in Bee-Culture.

Shallow Extracting Frames

Louis Scholl makes a strong point in favor of these when the crop is short, or when one wants to catch the high price of an early market, in Gleanings:

While the deep Langstroth supers contain quite a quantity of honey, very little of it is ready to take off, as it is scattered throughout the combs, with some green honey intermixed, which the bees are still bringing in sparingly. It is not profitable to go through these supers and remove only the completed combs, of which there are few, as it consumes entirely too much time.

With the shallow supers we find all the upper ones completed, sealed over, and ready to be taken right off. The honey is riper since the bees began earlier, and has been stored more nearly at the same time, and always in the uppermost part of the hive. Is there any doubt about this being a superior grade of surplus honey over that which is stored in deep combs, besides enabling us to produce more of it, and that earlier, in the shallow supers than in deep ones?

Preventing Honey Running Over

If honey is allowed to run constantly from the extractor, only stopping it when a pail is filled, there is danger of a mess if one forgets and allows the honey to run all over the floor. E. D. Townsend, in Gleanings, gives a way to prevent all chance of such trouble, which Editor Root says is all right if there be a little extra capacity below the extractor reel. Mr. Townsend says:

Allow the extractor to fill with honey until the revolving baskets begin to swim in the honey. Then set the pail under the gate, lift the handle of the gate and hold it up until the pail is full. With the large gates now put on extractors, and with warm honey a pail will fill in about one-fourth of a minute. Now empty the pail into the tank, leaving it turned upside down to drain until the extractor needs emptying again. We have been all through the troubles which follow when the extractor is run with the gate open all the time. It is a poor and expensive way simply to close the gate when a full pail is exchanged for an empty one. The other way is much better.

Bees Help the Vineyard

A young man in the shoe-business was burned out in the fire at San Francisco. He owned a few acres of table grapes near Sanger, in the San Joaquin Valley. He decided to turn farmer, and went down and cultivated his grapes. The soil was good, the season a fair average, his vines were healthy, his neighbor had big crops. He had nothing. What did he do? He took the next train to Berkeley, and went to the "Cow College," as they call the agricultural department of the State University. He laid the case before the viti-cultural expert and got it diagnosed and prescribed for. The diagnosis was that the blossoms probably needed to be fertilized from the pollen of other vines by artificial means. The prescription was a dozen colonies of bees to be distributed through the vineyard. The next season he had a bumper crop.

This small incident is significant because it is typical. The Californian takes his problem to experts and follows advice when he gets it. He has no bucolic contempt for theorists.—*World's Work.*

Extracting Without Shaking or Brushing

S. E. Miller, of Missouri, thus gives the plan, which seems to be from actual experience, in the Bee-Keepers' Review:

First, I will say that the plan is not practical unless queen-excluding honey-boards are used, so it will not apply to the fellow who insists upon having brood all through his hives that are run for extracted honey.

Clear a space of all fixtures that may be in the way near the doors of the honey-house. Open the wood doors and leave the screen-doors closed. Leave the door free of all obstruction through which to pass with the wheelbarrow.

All doors and windows should be provided with escapes, and the windows may be used as well as the doors by lowering the upper sash, provided there is room enough to place the supers, and the windows are screened and provided with escapes. Now with your wheelbarrow, your smoker in good order, and your hive-tool, you are ready to begin operations. Two or three robber-cloths will be needed if bees are inclined to rob; and at such time is when this method is of the greatest advantage.

Proceed to the hive you may choose to commence upon; raise the cover and give a few vigorous puffs of smoke. Insert the hive-tool between the super and brood-chamber, or next super below, as the case may be. As you pry it up give more smoke. Standing beside the hive, grasp the super by the end hand-holes; lift it clear of the lower part, and with a sort of swing bring it over and place it on the wheelbarrow, which should be as close at hand as possible. There is a knack about this movement that, if properly acquired, will enable the man of average strength to handle the heaviest 10-frame super of extracting combs with but little difficulty.

If there is more than one super to the hive, proceed in the same manner. When all are off, put on the cover. I would not at this time remove the excluders, as they are sometimes rather hard to remove, and it takes time that we cannot spare just now. Cover the supers with a robber-cloth if robbers are about. Proceed to the next hive and repeat the operation. Continue until the wheelbarrow contains as many supers as you feel like pushing. Then wheel it into the honey-house and pile the supers crosswise of one another near the door or window. In doing this you have not used a brush or removed a single comb from the supers. The supers may be piled as high as you feel like lifting them, and as close together as you can place them. Proceed in this manner until you have occupied all the space you can spare in the honey-house near the door and windows.

By this time the supers that you first brought in are practically clear of bees. The latter having clustered on the screen door, or if sufficient escapes have been provided they will have passed out almost as fast as they leave the supers. It would, therefore, be well to have several escapes in the top of the door, or else to have one large escape the entire width of the door by having the screen run up nearly to the top of the door and having a bee-space between the screen and door frame top.

You are now ready to commence uncapping and extracting, and the bees will keep out of your way about as fast as you can work, provided you can work the supers in the same order that they were brought in. It may be necessary to use the brush occasionally for a few stray bees, but this is a small matter. My doors are not pr o vided with sufficient escapes, and sometimes what would make a fair-sized swarm of bees accumulate in the upper corner of the door frame and on the screen. I simply push the screen door partly ajar, and strike t a blow with my hand, then quickly brush the bees from the door frame and close the screen.

At times there may be quite a few bees flying about in the honey-house, but they are not a serious interference, and one can well put up with it when he considers the amount of hard and disagreeable work he has avoided, for brushing bees from combs out-of-doors, when robbers are on the war-path, is anything but a pleasant task.

Bees in Uganda and Chile

Mr. E. H. Bruner, a Chicago subscriber to the American Bee Journal, kindly sends us the following about bees and beeswax in Uganda, taken from the "Daily Consular and Trade Reports," of Sept. 3, 1909:

Consul Arthur Garrels, of Zanzibar, reports that, according to an East African newspaper, the chiefs and people of Uganda are becoming enthusiastic in the domestication of bees for the production of wax, one of the few products that can be profitably exported from the Nile country. As a result of the work of instructors sent to teach bee-keeping, bees are being largely domesticated by the natives, as manty as 8000 hives having been erected in the easern province alone, 2000 hives being already occupied, and there is reason to believe that within another year beeswax will be among the staple exports of Uganda. At Entebbe it is worth about 22¼ cents per pound.

Also the following referring to bee-culture in Chile:

Consul Alfred A. Winslow, of Valparaiso, calls attention in the following manner to one of the more important of the minor industries of Chile, and the opportunity for the more extensive introduction of modern American methods and appliances:

Chile exports large quantities of honey and beeswax, notwithstanding the fact that comparatively little effort is made to advance the industry, as indicated by the following extract from the Boletin de la Sociedad Nacional de Agricultura, the leading agricultural publication in Chile:

"We are safe in saying that there are few countries that have conditions more favorable to the production of honey than Chile. The benignity of the climate in the greater part of her territory, with the exception of the extreme north and south, and the abundant flora, wild as well as cultivated flowers, favor the extension of the bee-industry. Notwithstanding all these favorable circumstances, the bee-industry has not been developed in proportion to the advantages that obtain, owing to the fact that there are so few operators who understand the management of bees, and particularly according to the latest methods. Nevertheless, the production goes on increasing from year to year. The apiaries that are well attended give splendid results, and especially those of the south, where it is not uncommon to find hives that produce as high as 40 kilos (88 pounds) of honey during the year."

During 1908 there were 5,510,120 pounds of honey and 909,125 pounds of beeswax exported against 3,168,440 pounds of honey and 573,760 pounds of beeswax for 1907, of which Germany took about 60 percent, France 15 percent, England 15 percent, and Belgium 8 percent.

Here seems to be a good opening for the further introduction of up-to-date appliances and methods, as the field is ideal for the industry.

American Bee Journal

By W. A. PRYAL, Alden Station, Oakland, Calif.

A Garden Trowel as a Hive-Tool

One day I was setting a trap to catch a gopher, and in doing so I usually use a small garden trowel to clean out and sometimes enlarge the rodent's burrow, and when I finished I left the implement on my work bench near the honey-house. Soon afterward I had occasion to overhaul a bee-hive, and along with my hive-tools I took the aforesaid trowel. I thought I would give it a trial as a cover-lifter and a super-raiser, and it worked beautifully. Frames were pried apart, propolis shoveled out of hives occupied by Italians and hybrids; in short, it proved a very useful tool. It is better than a chisel or putty knife, and it is cheap.

Another useful tool in the apiary is a paint-burner's triangular scraper. The interior of a hive can be cleaned most satisfactorily and expeditiously with one of these cheap scrapers. If you haven't one, buy one and thank the "Old Reliable" for making you wise!

About Queen-Rearing

From a town in Kansas a young gentleman sends me this letter:

"I would like to go to a country like California where I could get out queens earlier in the season than I can here in Kansas. I have a chance to buy an apiary at Glendora, 27 miles east of Los Angeles, Calif. My mother has just returned from Glendora, and she thinks the nights are too cold for queen-rearing. How early and how late in the season can you rear queens in California and have good ones?"

In reply I would say that I do not know very much about the queen-rearing business in the lower part of this State, but I feel sure my correspondent will find the conditions anywhere about the distance he mentions east of Los Angeles all that he could wish for, at least as far as climate is concerned. If one could manage to keep up a supply of drones through the winter, queens may be reared the year around. For the best results it is better, however, to rear queens only during the natural season, for their propagation (March 1 to say Aug. 1), though up to and perhaps in early October, would make no great difference, provided the colonies in which the cells were started are strong, or up to what would be considered normal in early summer.

To make a financial success of commercial queen-rearing in Californa, as well, perhaps, as anywhere else for that matter, it would be well to see that few, or better, no black or other races of bees different from the kind to be propagated, should be in within twice the accredited flying-distance of your bees; that is assuming that your bees travel 3 miles from the apiary, then you would want to be 6 miles from other bees. Six miles is a big radius; perhaps for all practical purposes 4 miles would be plenty, as I am of the opinion that drones, while husky fellows, are just lazy enough, even when on pleasure bent, to fly but a short distance to their trysting grounds or reservations.

Still, on the other hand, a queen may venture further should drones not be close to the apiary in which she was reared. But I suppose you are informed in regard to all that pertains to the subject. I only mention it with a view of cautioning you to produce *good and pure stock.*

To Prevent Swarming

From Dr. Henry Jones I got a small booklet, entitled, "A Radical Cure for the Swarming Habit of Bees," and he asks me to pass criticism on his plan. As it is too late in the season to try it in my apiary, I shall have to wait until next spring before I can treat my bees to its drastic use. The system might be called "abortionating baby bees;" 'tis cruel, and I might uncharitably remark, it would only take a doctor to think of such a plan. It is almost on all-fours with Dr. Osler's idea of killing off the old gentlemen and ladies, as they are useless. For me, I like to see the old folks; I think there is nothing so inspiring as a grand old man and woman, especially if they have led a good and useful life. But, still, to decapitate a portion of the sealed brood when a colony shows signs of swarming, is—well, the dollar-and-cent equation comes in and our scruples may melt into nothingness—we might do as we would do with the poor little kittens we do not want to see grow up about us, and, perhaps, have a half-starved existence. So, until next summer I shall hold my peace about the Doctor's plan, which may be just the thing we have been so long looking for.

Some Gladioli Cranks and Bees

The growing of the gladiolus is getting to be quite a popular fad; it well might be, for it is a fine flower of good form, easy culture and beautiful appearance. Some of the newer sorts are fairly gorgeous, and in colorings, markings, etc., are close rivals of the orchids. For many years I have been an admirer and grower of gladioli, but it was not until this year that I "broke loose" as a genuine "gladioli crank," as an enthusiast of this flower is dubbed. This year my named varieties run into the hundreds, and in my mixtures there are thousands of variations. When my crossed seedlings come into bloom I expect to have something even better than I have been able to purchase or secure by exchange with collectors. (That sounds big, but it is one of the anticipations of the specialist who hand-fertilizes his flowers.)

Here I might mention that the bee has played an important part in bringing about the improvement of this popular garden flower. Some growers still believe bee-fertilized seed is better than hand-fertilized seed. This may be true up to a certain point; by hand-pollination the hybridist can secure about what he wants in a cross; while the bees may use some useless parents in their mix-ups. It is almost impossible, also, for the bee to effect fertilization in some of the large-flowered modern gladioli, as the organs are too often beyond the reach of these insects. Dr. Van Fleet, associate editor of the Rural New-Yorker, and the originator of *Gladiolus Princeps*, the largest flowered variety so far produced, mentioned this fact in a recent issue of that paper.

I notice that bees work very industriously on the flowers of some varieties of this plant; that at times nectar collects quite plentifully in them. I don't know but there are some varieties that are good nectar-secreters.

In this connection I might mention that I have heard that one of the past bright and shining lights of the bee-keeping galaxy, has left the apiarists' camp entirely and is now in the ranks of the gladioli cranks. I refer to A. E. Manum, the one-time famous Vermont bee-keeper. I am informed that he is now somewhere near Los Angeles communing with Flora, aud has a big family of rare gladioli under his skillful care. Shake, brother, shake; but, remember, I have not deserted the bees, and I think I never shall entirely.

Apogem—A Fertility Producer

Yes, I don't think you will find it in the dictionary. I think it is a new word and may die a-borning, like many another word that was brought into this cold and heartless world, for some other word may take its place.

Apogem—or Apisogerm, which I am inclined to discard on account of its greater length, if for no other reason—is the innoculation of the soil with a certain bacteria that scientists have so far failed to investigate, and which by its presence causes the soil into which it is placed to become inordinately fertile. Great crops may be easily produced wherever apogem is sown. It has not yet been placed upon the market, and I am not aware that any of the experiment stations have issued a bulletin setting forth its wonderful properties. Of course, it gets its great virtue from the honey-bee. To the alfalfa-grower it is a boon indeed, as it is, in fact, to all other cultivators of the soil, as may be surmised.

If I were avaricious I might make a fortune by this discovery. I don't want to be a Rockefellow and be cursed with tainted money. The secret will

American Bee Journal

be given to the world in the next issue of the American Bee Journal. Be on the lookout for it; tell all your friends to send for a copy of that number in advance, that the publisher may know at once how much larger an edition he should print than usual. Do it to-day; yes, right now write, and don't forget.

California Holly or Christmas Berry

A tree that is seldom thought of as a bee-forage plant in California is the tree that furnishes the beautiful red berries that are so universally used in this State for Christmas decorating; in fact, it is called "California Holly." It is not to be confounded with the English holly, or even the gallberry of the South, which is botanically *Ilex galabra;* our Western plant is *Heteromeles arbutifiora,* and it belongs to the rose family, though it is not to be imagined that it is like the queen of garden flowers, as the Rosacea is a big family or order, and takes in nearly all the cultivated fruits of the temperate zone.

It is quite common in the coast mountains, sometimes attains to the proportions of a fair-sized tree, but is

California Holly, or Christmas Berry-Tree.

generally found in shrub form, as shown the accompanying half-tone. It is an evergreen with dark green leaves above, but of lighter color underneath. The flowers, which appear during July and August, are white, and are borne in close panicles at the end of the branchlets. The flowers are richly fragrant and are ravishly sought by the bees for the nectar they contain. The beautiful scarlet fruit is about the size of ordinary sweet-pea seed, is mealy and slightly astringent, but edible.

Mr. Vernon Townsend, president of the California Central Coast Counties Bee-Keepers' Society, stated at a meeting of the organization, that it was one of the best honey-producers he knew of that came after the sages, and he said the honey produced from it was of fine flavor and body. He had extracted much of this honey, and was well satisfied with it, and other members who were acquainted with the product substantiated his statement.

This evergreen tree does not grow in sufficient quantities in my neighborhood for me to form an opinion as to its capabilities as a nectar-secreter, but I know that the bees give it large attention when it is in bloom; back further in the hills there are large acreages of holly, so I suppose it forms one of the best fall nectar-secreting plants all through the western portion of Contra Costa county.

It is trees like this that help to carry our bees over the dry spell; the pity is that we have not more of them.

Conducted by EMMA M. WILSON, Marengo, Ill.

Bee-Conventions and the Sisters

Interest in bee-keeping among our British sisters is shown by the fact that in the report of the regular "conversazione" of the British Bee-Keepers' Association (British Bee Journal), there appear 16 ladies among the 85 present. Who can report a bee-keepers' meeting in this country where the brothers did not outnumber the sisters more than 4 to 1?

Women as Bee-Keepers

In a bulletin on bee-culture issued by the government of New Zealand, the author, Isaac Hopkins, says the ladies who take to bee-keeping make excellent aptarists, "much better than the average man." The question is whether the same thing is true on this side the globe, and, if not, is it that the "average man" here is smarter than his antipodal brother, or that the sisters of the United States brand do not come up to their New Zealand sisters? Mr. Hopkins further says:

> In America they rank among the most successful bee-keepers, and peasants' wives on the Continent of Europe usually look after the household bees, from which they derive a considerable proportion of the family income. There is nothing to prevent a fairly healthy young woman from managing and doing the work, with a little assistance during the height of the season, of an apiary of 100 colonies. The work carried out by the lady apiarists at the Ruakura and Weraroa State Apiaries, where, in addition to their actual bee-work, they put together and paint the hives, make the frames, and do everything necessary on a bee-farm, affords practical proof that there is nothing connected with bee-farming but what a young woman can accomplish.

Wintering Bees Outdoors

I have an apiary consisting of 80 colonies of bees. My cellar being too small to accommodate that number, I have arranged for wintering part of them outdoors. I have built double-walled hives with ¾-inch airspace, building-paper between, and with a ¾-inch entrance. What width of entrance would you consider suitable in wintering bees outdoors with this style of hive? Any other suggestions you might offer would be greatly appreciated. MRS. C. J. DRESEN.
Midway, Wis.

For an entrance to a hive occupied by a strong colony, for outdoor wintering, a depth of ⅜ of an inch and a width of 6 inches is considered about the right thing. You say you have a ¾-inch entrance, which no doubt means an entrance ¾-inch deep. If left that depth, 3 inches ought to be sufficient width. But it is better to have the full 6 inches in width and reduce the depth to ⅜ of an inch, because ¾ inch will allow too free entrance for mice. If there is no more convenient way, you may reduce the depth by tacking on a little strip, either at the upper part of the entrance on the front of the hive, or on the floor at the bottom of the entrance.

For a weaker colony, with bees to cover only 4 or 5 combs, an entrance 4 or 5 inches will be enough. You say nothing about a covering on top. Very likely you have that all right, but there is no harm in mentioning that it is important that the warmest covering be on top, even if you have to pile on something above the outside covering. If the coldest part of the hive be on top, then the moisture from the bees will condense there and drip down on the bees. As advocated by Jay Smith, the sides of the hive should be colder than the top, so that any moisture from the bees will condense on the sides of the hive, where it can run down without harming the bees.

Bees as Nature Study in the Public Schools

Mention was made some time ago in this department of Miss Emma V. Haggerty. She was trained as a school teacher in New York City. After teaching for some time there, she engaged in teaching in Colorado, and while there became interested in bees. Then she returned to New York State, and spent some time working with the bees of one of the large honey-producers of that State. Intensely interested, she became proficient in both the theory and practice of bee-keeping.

An apiarist was wanted to take charge of the bees in the Bronx Zoo of New York City. Among those taking the examination for the place was Miss Haggerty, all the others being men. She came off with flying colors, rating 100 percent—10 percent higher than the highest of the others. But

American Bee Journal

she didn't get the place. Some one who perhaps knew more about "pulls" than about bees, ruled that she was ineligible because she was a woman!

So Miss Haggerty went back to her work as a schoolma'am in the city of New York. But she took her interest in bees with her, and it occurred to her that in the "nature work" of the school there might be more of interest, and certainly more of nature, if the children had to do with real live bees. Suggesting the idea to Miss Sarah Goldie, the principal, the latter thought so well of it that she purchased some bees at her own expense. A reporter of the New York World tells about it, and with fewer errors than reporters generally make when trying to tell anything about bees. He says:

There are 240,000 teachers in Public School No. 100, on East 82d St., all working without a cent of pay from the city. The principal subjects which they teach the 1400 children in the school are industry, loyalty, fearlessness and cleanliness. They also add a lot to the fun the pupils have, and frequently a sample of the teachers' shop-work is sent to the members of the Board of Education in the shape of honey that needs no Government stamp to guarantee its purity.

These teachers are the bees that fill 3 hives on the schoolhouse roof, and another in the assembly room on the the third floor. All they demand of the city is the pollen in the flowers of Central Park, and they go after it themselves.

With all those bees and with all those children in the same school, there is only one case of stinging on record. The victim was a little girl in the fourth grade. She didn't scream, or jump, or kill the bees. On the contrary, she stood the pain with the heroism of a martyr to science and let the insect take its own time in removing the stinger and in leaving her hand. For she had learned in the course of the bee lessons that the stinger is the end of the bee's intestine, and that if it is torn off by a blow or jump on the part of the person stung the bee dies. And the very next composition day that little girl wrote the best essay of the week on bees, taking the sting for her special subject; and she got the customary reward of a box of the school honey for her theme. That incident surely justifies the placing of fearlessness in the special curriculum of the hives.

Furthermore, that stung child hasn't any doubt about what she is going to do for a living when she gets through going to school. Like many of her schoolmates, she is determined to keep bees, on a city roof if she can, and if not there, in the country.

At the youthful grammar school age nearly all these children know practically everything that it is necessary to know about bees and the production of honey, to go into the business, to say nothing about all those moral qualities that, according to the schoolbooks, the "little busy bee" is supposed to instill.

Preparing Bees for Outdoor Wintering in Cold Climate

Few of the sisters do business with bees on so large a scale as Miss Mathilde Candler, and as she has wintered bees successfully outdoors as far north as Wisconsin, it may be profitable to learn just how she does it. This she gives in the Bee-Keepers' Review. She has been using tarred felt as a winter packing for 6 or 7 years, and for the past 3 years has wintered 300 colonies thus packed with but little loss. She says:

I put a bee-escape board on each hive. On this I place an empty comb super, and fill it with planer shavings or sawdust; then I put the tarred felt around the hive.

The packing or telt is in two parts—cover and sides are separate. The side paper is as high as the two brood-chambers, and fits *snugly* around the hive, with 6 inches allowed for lap, and is fastened together at the back with a piece of lath.

The cover paper is of tarred felt, the full width, and long enough to reach well over on the side paper. It is then folded snugly down over the top, and kept in place by lath nailed on all 4 sides. The hive-cover is then placed on the paper cover and the job is finished.

One nail in each lath is enough. I used to tack a piece of lath on each of the 4 sides at the bottom of the paper, but for the last 2 years have not done so; if the paper fits tight, and is carefully pressed around the corners, it does not seem necessary.

No doubt the top packing is a very important part. Although she has tried it only one winter, and that a mild one, she is quite pleased with dry sod as a packing instead of planer shavings. She says:

I placed the sod, cut the size of the top of the hive, grass side down, on top of the escape-board which is on each hive, and under the paper cover, which kept it nice and dry. On top of all is the regular hive-cover.

Although I have used sod as a top packing only one winter, and that a very mild one, yet I cannot see why it should not be as good as sawdust or other packing, even in severe winter, provided it is well dried out when put on, and kept so. It is ever so much more convenient for me than any other top packing I've ever used. It is right at hand, easy to cut with a sharp spade, easy to handle, holds its shape, and does away with the need of an extra super to hold the packing. It feels nice and warm when I slip my hand under the sod. In a few cases I put it right on top of the regular hive-cover, and then put paper over the whole.

Formerly she put the paper cover on top of the regular hive-cover, but now puts it under, as it thus lasts longer.

Poor Honey Season, But Sister Thankful—Favors Pictures

We have 125 colonies mostly in 10-frame shallow hives. On account of the drouth we got no honey at all until the middle of August. Cat-claw was a failure, mesquite was a failure, sumac was a fifth-crop, live-oak was a third-crop, but we have much to be thankful for; they kept us on corn-bread and beans, a change of clothes apiece (there are 8 of us), and enabled us to keep up with the subscriptions to several much-needed periodicals, magazines and journals, and I need hardly say that the American Bee Journal is one of the most appreciated; and the bees accumulated enough to winter on. We hope for better times next year.

Pray do not leave the illustrations out of the American Bee Journal. As well leave out the butterflies and birds from a garden! I have, for one, written a postal to our friend C. L. Grigsby, of El Casco, Calif., requesting him to send along the photographs he mentioned, and I hope to see them soon on the pages of our much-appreciated Journal.

(MRS.) M. E. PRUITT.

Vancourt, Tex., Nov. 10.

Fool Bee and Wise Moth

The busy bee, as we may see,
Improves each shining hour;
And yet compared with any moth
It lacks for mental power.

From dawning light till dewy night,
It toils with restless wing,
That man may steal its store, and then
Eat every blessed thing.

The moth will let a fellow sweat
To pay the tailor's bill.
Then all the lazy summer months
On clothes will eat its fill.

—*Selected.*

Divisible-Brood-Chamber Hives

These were a hobby of E. D. Townsend, but he now has this to say about them among other things in the Bee-Keepers' Review:

There are some very nice features about the divisible brood-nest hive, but, as a whole, it is disappointing. The main disappointment comes from the financial side of the proposition; caused by the bees not breeding up sufficiently strong during the two months previous to our main honey-flow in June.

It is not the intention of this article to give the impression that this sectional hive is a *complete failure*, but the results obtained with this hive, in comparison with the Langstroth hive, are 15 to 20 percent less in surplus honey.

Per contra, Editor Hutchinson says:

For nearly a dozen years I had the Heddon hive in my apiary, using it along-side the Langstroth, perhaps 50 hives of each kind, and I never noticed any particular difference in the way that the bees bred up in the spring. I was not *looking* for any difference, not taking particular notice, but if there was a difference, it was not sufficiently noticeable to attract my attention.

A Cheap Bee-Feeder

R. B. Ross, Jr., in the Canadian Bee Journal, gives this description:

Take the cover of a 10-pound penny-lever honey-pail, place it upside down on a block of wood, over which it easily slips; with a 3-inch wire-nail and hammer, punch from 12 to 15 holes through the cover, but avoid making the holes too large by driving the nail too far. If the holes are about the size of the lead in an ordinary unsharpened pencil they will be just right.

Now fill the honey pail as nearly full as you can—for a 10-pound feed—push the cover on tight, and the feeder is complete.

In practice I place 3 or 4 thicknesses of newspaper directly on the frames, first tearing out holes about 2½ inches in diameter, wherever you wish to set a feeder (usually one feeder is enough, per colony). Quickly invert the feeder over the whole, put on empty hive-body and cover, and feel assured that the bees will do the rest in a few hours without any danger of leakage or loss. As soon as feeding is finished, the pails can be washed out, dried and used at once for storage and sale of honey, as they are undamaged. The perforated covers, costing but a cent or two, represent your actual investment in feeders.

New York Bee-Keeper Slugged

About the middle of October, Stephen Davenport, a bee-keeper located at Indian Fields, N. Y., was visited by two well-dressed young men from Coxsackie, with the apparent intention of buying some honey. After selecting

American Bee Journal

the honey they proposed to call for it the following Sunday. The honey was replaced in the box, and while standing near one of the men the other struck Mr. Davenport a terrible blow on the head with a loaded billet, as it appeared, and almost knocked him senseless. He was struck twice more, but reached the door, pushed it open, and rushed out yelling at the top of his voice. This frightened the men so they ran across a field, but in their haste to get out of the building, they upset the honey which was scattered and broken on the floor. Though the shock and injuries to Mr. Davenport were severe, he was rapidly recovering the first of November.

A reward of $100 has been offered for the apprehension and conviction of the person or persons who committed the murderous assault. It seems strange to Mr. Davenport that any one should so attack him, as he never has any money on hand worth mentioning. We regret very much to learn of this distardly attempt on the life of one of our subscribers, and trust that the culprits may be arrested and made to suffer for it.

Two Virgin Queens Introduced Together

Two laying queens have been known to live together peaceably if one or both were old. Virgin queens are understood to have a mortal antipathy to each other, a fight to the finish occurring as soon as they can get at each other. But now the supposedly impossible has happened. Here is the statement as it appeared in Gleanings:

As the season was drawing to a close our Mr. Pritchard, at our north yard, had a surplus of virgins that came near starving to death. He had no place to put them, but he picked out two of the best, and put them into *one* Miller introducing cage. This cage of two queens was then given a compartment in a baby nucleus, and contrary to what he expected, both queens were kindly received; both were fertilized, and both began laying side by side without showing any inclination whatever to quarrel.

Mr. Pritchard accounts for these two virgins not fighting, when placed together, to the fact that they were nearly starved. When put in the same cage they both began to eat away the candy. If they had not been nearly starved, he says the first thing they would have done would be to engage in a mortal combat.

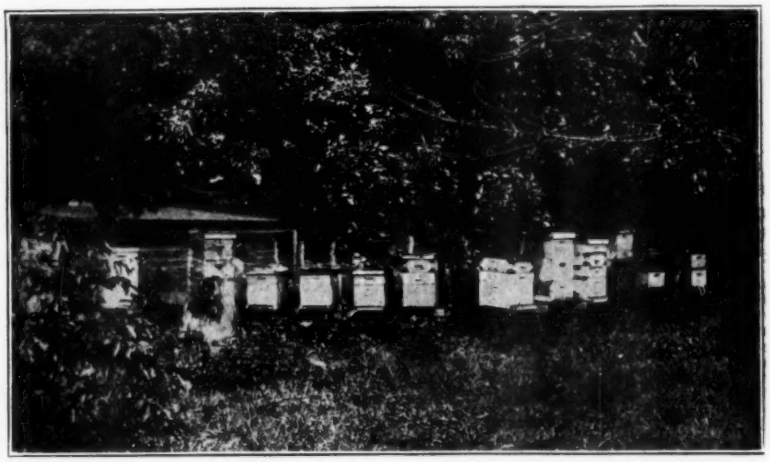
Todd Hive-Stand

F. Dundas Todd has devised a hive-stand that is unique. He says this, in Gleanings:

At present my hives rest on three dowel-rods ⅞-inch in thickness, and so far I am satisfied with the results. These rods pass through suitable holes bored in 2x4 rough lumber; and as I prefer to have 2 hives on each stand, each will, therefore, consist of 3 cross-pieces. The specifications are: 3 pieces ⅞x42 inches, dowel-rod; 3 pieces 2x4-x24, rough lumber, with ⅞-inch holes bored at 4, 12, and 20 inches, centers 2 inches from one side.

The construction is simple. Push the rods in place and fasten with nails. Cost, about 20 cents.

A hive-stand made of fencing, simply 2 cross-pieces nailed on 2 longer pieces, will cost, with fencing at $35 a thousand, about 15 cents for each stand, and it is a simpler matter to make than the Todd stand. What advantage has the new hive-stand to offer that will overbalance the extra expense and trouble? The plain fence-board stand presents a larger surface for the hive to rest upon, and this larger surface of contact gives a good chance for water, in a rainy time, to remain between the bottom-board and stand, making the stand rot much more quickly than the Todd stand with the hive resting merely upon the dowel-rods or round sticks. But the lasting of the stand is a smaller matter than the lasting of the bottom-board. The same rotting that occurs in the stand will at the same time occur in the bottom-board, thus making the cheaper stand much more expensive in the long run. In many localities the presence of large black wood-ants is a factor to be reckoned with. The two flat surfaces coming together offer just the right thing for these pests to make their nests, and both bottom-board and stand will be thoroughly honey-combed. The very small surface offered by the dowel-rods does not favor these nests. In the long run the Todd stands may be much the cheaper.



No. 1.—Apiary of L. W. Crovatt, of Savannah, Ga.

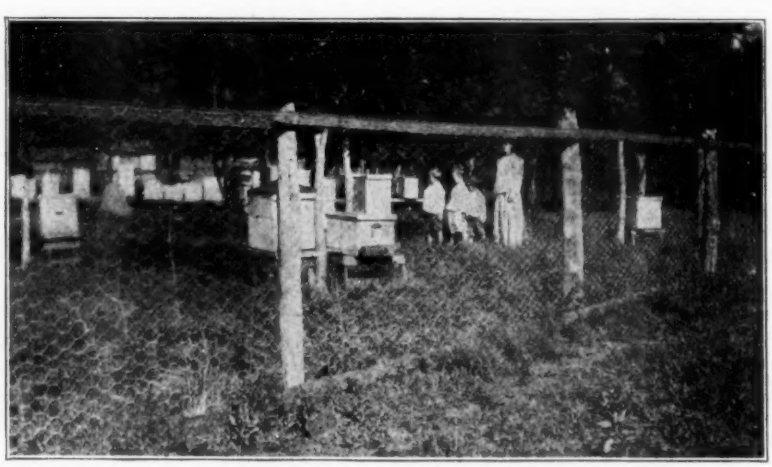
A Georgia Apiary—Selling Honey

I am sending two views of my apiary located at Thunderbolt, near Savannah, Ga., but while they give a fair impression of the apiary, they do not show the full number of colonies which, at this time, is 26. I am now building a honey-house which will be located immediately under the trees in the rear of the stump which appears in the foreground at the left of the main picture, No. 1.

The view of No. 2 is that of my increase for this season, which are all located under hickory trees.

I am running a portion of the 26 colonies for extracted and the remainder for comb honey. Last season was extremely poor in this locality, but we are very hopeful for a good crop this year, the spring flow having proven good to date. We depend principally upon the fall flow from goldenrod and prolific swamp growths for our crop in this section. I might say that the year is an exception to the rule since we have secured a fair crop of honey from the spring flow, which is the first in several years. Other bee-keepers of this section report the same condition.

View No. 2 is a picture of Mrs. Crovatt, who hives the new swarms and assists generally in the apiary. In fact, she is my mainstay in the business, looking after things generally in my absence. I am home only on Sundays, and look after the bees only once in seven days. This is our fourth year with bees. Others report failures, but I find invariably that the bees are not at fault; rather the erstwhile keepers, for I have bought out 3 already, and in building up the colonies I have had fair luck to date. Last season I secured 17½ cents per section for comb honey, and 35 cents per pint for extracted honey.



No. 2.—Apiary of Mrs. L. W. Crovatt, of Savannah, Ga.

Those Farmers' Tactics.

It is a great pity that the bee-papers could not educate up the rural bee-keepers to securing what the honey is really worth for their crop. Think of it! They market honey

American Bee Journal

in the comb for 8 and 9 cents per section! Naturally this has a tendency to depress the market for a better grade of comb honey. But the stuff they market—in Savannah, at least—is little short of a disgrace to the industry. Dozens of times I have seen honey exposed for sale which I would actually be ashamed to admit, if I had produced it. In most cases the boxes are the only redeeming feature, for they, at least, are clean, but the two or three rows of cells next the wood are empty, or only partly filled, and in many cases I have stopped at the stores where this miserable stuff was exposed in a glass case for sale to look at the combs broken from the wood entirely—caps broken and the honey messing up things generally.

But while this stuff is miserable and actually unfit to offer for sale, and hurts the business generally, the store-keepers would rather take it at 8 or 9 cents than to pay 10 or 11 cents for a fancy grade of comb honey. It's money in *their* pockets; the consumer may not know any better, but all the same it makes sore a careful bee-keeper, who takes pride in producing a fancy, nice looking section.

The only way to head off the proposition is to sell direct to the consumer. It takes more time, but repays one for the trouble. That is the reason why I am dealing direct with the consumers, as I have always done, with one exception. L. W. CROVATT.

Savannah, Ga., July 1.

Send Questions either to the office of the American Bee Journal or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Long-Tongue Bees—Spacing Frames

1 Which race of bees has the longest tongues—the Italians, Carniolans, or Caucasians?

2. How close can frames be together where there are no foundation sheets used? Can they be 1⅛ inches apart? I have them 1⅜-inches, and the bees build more combs in a hive than there are frames.

PENNSYLVANIA.

ANSWERS.—1. I am not entirely sure, but I think the Cyprians. But there is a variation in bees of the same race.

2. You cannot have combs built true without having at least starters, and 1⅜ is close enough. If you try 1⅛ you will find the bees will do still worse than with 1⅜.

Keeping Honey in an Ice-Box—Joining the National

1. Why is it not advisable to let honey stand in an ice-box?

2. I am desirous of becoming a member of your "League." Kindly let me know what are the requirements. E. ST. LOUIS.

ANSWERS.—1. If you mean by "ice-box" merely a close box with ice in it, I've had no experience. But I have had experience with a refrigerator. Things put in that become dry instead of becoming moist, so honey keeps all right in it. At least it does "in this locality," although Editor Root thinks it will not keep there.

2. I suppose you refer to the National Bee-Keepers' Association. Send your name and a dollar to the General Manager and Treasurer, N. E. France, Platteville, Wis., and you will be enrolled as a member. Or you can send the same to Editor York, of the American Bee Journal, 116 W. Superior St., Chicago, Ill., and the dollar will make you a member of both the Chicago-Northwestern Bee-Keepers' Association and the National. Or, if you prefer, it will make you a member of the Illinois State and the National Associations. You may also, if you prefer, send the dollar to R. A. Holekamp, 4263 Virginia Ave., St. Louis, Mo., and become a member of the Missouri Bee-Keepers' Association and the National.

What Was Wrong With the Bees?

I have a colony of bees in an 8-frame dovetailed hive with plenty of honey, and on the 5th and 6th days of this month (on Friday), about 2 o'clock p.m., I noticed the queen and about 20 bees on the outside of the hive, and the other bees running all over the hive. I put her back in the hive, and the next day she was out the same way, and I tried to put her back at the entrance, and she wouldn't go, so I took the top off and put her in there, and she has not come out any more. I examined the hive well, and it is pretty and nice, no weevils nor anything of the kind, and there is plenty of honey. I would like to know what is wrong with her. She was pretty and active, and nothing seemed to be wrong with her. KENTUCKY.

ANSWER.—I am at a loss to tell what was the trouble in your case. Possibly, in spite of the fresh looks of the queen, the bees had superseded her, and a young queen was in the hive. Even in that case the occurrence was very unusual, for it often happens that an old queen stays some time in the hive after her daughter begins laying. The likelihood is that next spring you will find the old queen missing. But you cannot tell about that unless she is clipped, for otherwise you will not be able to tell a new queen from the old one.

If any one can tell any better what was the matter, I'll be glad to yield the floor.

I am sitting down to answer your letter less than an hour after receiving it, but it is impossible for the reply to be in the November Bee Journal as you desire. That number, I suppose, is already on the press. It takes time to do the printing and mailing. It takes time to write the answer, and I cannot always answer a letter the same day I receive it, and then it takes time for me to mail the answer to Chicago. So in order to have an answer in any number, the letter should reach me before the first day of the month, making due allowance for the time it takes for your letter to reach me.

Cellar Hive-Ventilatnon—Early Reared Queens

1. My bees are mostly in the form of 4 and 5 frame nuclei — one 4-frame and one 5-frame in each 10-frame dovetailed hive, with the ⅜-inch entrance up, and a bee-tight division-board between. As the entrance is closed up for about 2 inches in the center where the division-board is, this will not provide enough ventilation when in the cellar. If I raise the hive from the bottom-board, there will be danger of the bees or queens fighting, so how can I secure enough ventilation? How would it do to remove the cover and place one or two thicknesses of burlap on top?

2. In the last issue you answered my question in regard to early queens by saying that such queens would not be good. Now, I have prepared my breeding-queens, one for queens, and one for drones, by adding 2 colonies to each and feeding plenty. By stimulative feeding next spring these colonies can easily be made to rear drones, and swarm 3 weeks befoge the rest of the colonies, or about May 20 to 25. Why should these queens not be as good as those reared about June 15?

MINNESOTA.

ANSWERS.—1. I'm not so sure there would be any fighting if the bees were allowed to come together by the raising of the hive. Probably there would be none, although there is a possibility that by spring one of the queens would be gone. However, if you raise the hive so as to allow a passage from one side to the other, you can put in a strip of wood that will close up the passage. The other plan you suggest—providing for upward ventilation—will be all right, too. It matters little where the ventilation is, so there is enough of it. When I first wintered in box-hives in the cellar, I turned the hives upside down. That gave no ventilation below, but oceans of it above.

2. I'm not sure I know just why early-reared queens are poor. It's not merely a question of strength of colony. And I don't believe you can make feeding entirely as good as gathering from the flowers. I know this: that I have had quite a number of queens reared early, first and last, and they didn't begin to average up with queens reared later, there being no difference in the strength of the colonies. Let me give you another point. There's G. M. Doolittle. You probably are aware that he knows as much about queen-rearing as you and I put together, and then some more. Well, I think he says he can't rear good queens much before June. Perhaps I haven't the date right; but at any rate I think he is no more in favor of early queens than I am. If he can't succed at it, you and I may as well not try it. After saying all this, it still remains true that much depends upon the yield of nectar, and it is just as possible that where dandelion is very abundant, good queens might be reared quite a bit earlier than where it does not prevail.

Uniting Colonies With Paper Between

I have just read about your way of uniting 2 colonies by putting paper between them. Did you ever try putting a queen-excluding honey-board between them? I think it does as well. ILLINOIS.

ANSWER.—Yes, I have united with an excluder between the 2 colonies. It is much the same as having nothing between the 2 stories. In some cases—perhaps in most cases—bees will unite peaceably when one hive is set directly over the other, with no excluder between. In such cases of course they would unite all right with an excluder. But too often it happens that if one hive is set over the other without any precaution, there will be a severe fight. In that case I doubt that the excluder would do any good. But the paper will. There is no possibility with the paper, that one set of bees can fall upon the others *en masse*. It will take a bit of time for a hole to be made in the paper that shall let a bee through, and for some time there will be passage for only one bee at a time. In the meantime the 2 lots of bees are getting the same scent, ready to unite peaceably. At any rate, I've had one lot of bees killed when there was no paper between, and I'm not sure I ever had fighting when the paper was used.

A Variety of Questions

1. Can one be assured that no swarm has issued from a hive by the presence of their old clipped queen?

2. For several years, if I leave any partly-filled sections on the hive to be finished, after the middle of July the bees clean them out. Why do they do it? Stopping of the flow?

3. Has Italy two kinds of Italian bees, the leather-colored and the golden, or are the goldens bred in this country by select leather-colored stock?

4. For several years, in September and October I have caught several stray swarms. What causes these swarms at this time of the year? I have no trouble with my bees swarming after July, at the latest.

5. Is there anything that could be fed to the bees to prevent foul brood?

6. Will bees store more honey in shallow frames than in sections?

7. Can one tell the difference between a colony that is superseding their queen and one going to swarm?

8. In case a colony wants to swarm with a clipped queen, and they fail to get away on account of bad weather or some other cause before the young queen hatches, what will happen?

9. In case they are superseding their queen is there any danger of a swarm? OHIO.

ANSWERS.—1. Yes, with certain exceptions. There have been reports to the effect that a colony with a clipped queen has swarmed, and the queen not being able to go with the swarm, she has been allowed to

American Bee Journal

remain and the swarm has gone off with a young queen some days later, leaving the old clipped queen. Such cases, however, are so rare, I think, that they are hardly worth considering.

The other exception is the common one. A colony with a clipped queen will make preparation for swarming and will swarm just the same as if the queen were not clipped. Then when the queen finds she cannot go with the swarm, she generally returns to the hive, although she may crawl off and be lost. The swarm, finding there is no queen along, generally returns, although sometimes it may join another swarm that has a queen with whole wings, or it may enter another hive where there is the commotion of swarming. If you should open the hive the next day, you would find the clipped queen there, although the colony had swarmed the preceding day. Or, you may find her there several days later, although generally she will have disappeared by the time the first young queen emerges—say about 8 days after the issuing of the prime swarm. Of course the queen-cells will help to tell you the condition of affars.

2. Yes, the flow has ceased, the bees are not gathering as much as they use up each day, and use up what is in the super, or else carry it down where there is now room for it.

3. In Italy there are the leather-colored and also a lighter kind, but I think no 5-banded or golden, which is an American affair, not at all always from the leather-colored kind.

4. A late swarm of the kind may occur in much the same way as an earlier one. There may be a better chance in other cases than among your bees, where you take care of them properly.

5. In this country drugs are generally considered of no account in foul brood. In England it is a common thing to add naphthol beta to the bees' food, with the idea that it helps to prevent foul brood.

6. I think so.

7. Not for certain. Generally, however, there will be fewer cells for superseding than for swarming.

8. If bad weather hinders swarming, the case will be the same, whether the queen can fly or not. The bees may give up swarming and destroy the cells, or they may swarm later. See reply to question No. 1.

9. Yes.

Feeding Bees Candy in Winter

1. I began last spring and have about 15 colonies. I find that I must feed about 10 of them 8 to 15 pounds of candy, as they did not store enough honey nor syrup, which I began to feed last month. They did not "take it up," as the books say. I used the division-board and the Miller feeders, and some pans with cheese-cloth on the syrup. I made some 40 pounds of candy last week, but it is just slightly scorched, and I am afraid to feed it to them. I am thinking of making "Good" candy, one part honey and 5 or 6 sugar, and place this on the frames over the brood-nest, with very slazy cheese-cloth between. Please advise me.

2. Can I safely save over the scorched candy until next summer and feed it without danger to the bees—let them store it?

KENTUCKY.

ANSWERS.—1. Your candy on the cheese-cloth may be all right, but it needs watching. There is a possibility that the candy may be so thin that with the heat of the bees it will strain down throug the cheese-cloth. In that case you will have to take the candy out and work a little more sugar into it. There is also a little danger that the bees will not work through the cloth, especially if the candy is pretty dry. Punch a few holes through the cheese-cloth with a sharpened lead-pencil.

2. Save your scorched feed till next spring, *not for the bees to store*, but for them to use up in rearing brood.

Methods of Increase and Honey-Production

I have kept bees for only about 4 months, and I now have 4 colonies. Next season I would like to increase them and get a crop of honey besides.

1. Is the Swarthmore method, *i. e.*, shaking the bees on full sheets of foundation and then giving them a laying queen, better than the Alexander method of increase, as on page 270 of "A B C of Bee Culture?"

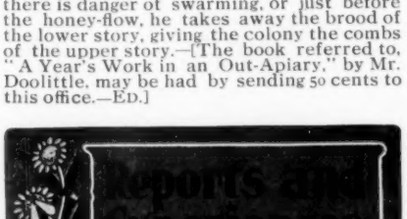
2. What is the Doolittle system of comb-honey production? It is described on page 343 of the October issue of the Journal, but the description is not clear to me.

We have quite a few honey-plants around here. There is any amount of whitewood, some basswood, quite a little sumac, and some white, red, and sweet clover.

NEW YORK.

ANSWERS.—1. Likely the Alexander plan may be better for you, as it allows little or no chance for brood to be chilled. But if you expect to double your crop of honey, as Mr. Alexander says you may, by dividing, you are likely to be seriously disappointed unless you have a heavy late flow, as Mr. Alexander had from buckwheat.

2. A book called "A Year's Work at an Out-Apiary" gives in full the system that Mr. Doolittle follows, which is a combination of good things more or less in general use, given by the author in an interesting way. Of course it would be out of question to give details here, but only one special feature may be mentioned, and that is that early in the season he puts over the hive a second story containing combs with more or less honey, an excluder between the two stories, and then when the time comes that there is danger of swarming, or just before the honey-flow, he takes away the brood of the lower story, giving the colony the combs of the upper story.—[The book referred to, "A Year's Work in an Out-Apiary," by Mr. Doolittle, may be had by sending 50 cents to this office.—ED.]



Coal-Oil for Bee-Stings

A few drops of coal-oil applied to the part of the body stung will, in most cases, completely cure and remove all bad feelings in a short time, and also the swelling. A bee-sting has no more effect on me than a flea-bite.

E. L. BELKNAP.

Kennydale, Wash.

Very Good Season

The past season was a very good one here. I had 5 colonies and took 300 pounds of comb honey and 100 pounds of extracted, besides increasing to 16 good colonies. The weather is very fine here now. My bees had a good flight yesterday. I put them into the cellar the same evening.

JOHN JANACK.

Benson Mines, N. Y., Nov. 29.

Bee-Ranges Spoiled

We Western people are hunting bee-ranges as the farmers are cutting the alfalfa before it blooms, and bees are not doing as well as they used to do. I find the ranges overstocked with bees in most of our Western States, and the practise of cutting alfalfa before it blooms is a severe blow to the industry.

GEO. E. DUDLEY.

Denver, Colo., Oct. 20.

Honey-Dew for Cooking, Etc.

Our bees this year gave us a surplus of about 40 pounds apiece in June. July was nearly all honey-dew. We took it off the last of July and extracted everything in the supers, sections, and all. We had a late light flow from Spanish-needle and hearts-ease, which filled up the hives very well, and we are in hopes they will winter all right. We are usng the honey-dew for making apple and peach butter, cakes, cookies, etc., and are using it up pretty fast. We have a nice lot of combs to use next year.

Center, Mo., Nov. 1. FREEMAN DAVIS.

Experience With Bee-Stings for Rheumatism

Having had some experience with bee-stings, I will give it for what it is worth.

Previous to 1898 I had periodical attacks of rheumatism. Sometimes I was free from it, and sometimes it was very severe. I took treatment for several years with apparently little effect. During the summer of 1899 a swarm of bees settled some 18 feet from the ground, and I got a ladder and dish-pan to bring them down. When I shook them in the pan they fell on the back of my right hand, and they stung it all over until it looked as if there was room for no more stings. I got down pretty rapidly (you may suppose). I could taste the bee-stings and could feel them in the tips of my fingers and to the end of my toes, and I was pretty sick. I poured some ammonia on the back of my hand, and took some internally. My arm swelled continually, but since that time I have been free from rheumatism. I had taken no medicine for months for the rheumatism, and I believe it was the bee-stings that cured me. I had been taking medicine of a doctor some time before, and I told him my experience, and he asked me how many stings I got. I told him I did not try to count them, but from 50 to 100. He said he thought I got enough formic acid to cure me. Should I have the rheumatism again I would certainly try the stings again.

S. N. BLACK.

Clayton, Ill., Nov. 29.

Danger of Honey-Dew for Winter Stores

The first entire failure in honey in my 30-odd years experience with bees I met this year. If I get a honey crop we have to have a white clover crop to produce it, and it was plain to me last winter that we would not have a white clover crop this season. The drouth in the summer and fall killed all of the old plants, and the seed did not sprout and come up with this spring. But we have got a fine stand this fall. The season has been very favorable for it.

If it had not been for the honey-dew produced by the plant-lice working on the leaves of the trees, the bees would have been in a starving condition in June and July. I was very liberal with them, when that flow began to come in, and did not put any supers on to dirty the sections with it, for I would not have known what to do with it after I had it, as I doubt very much if it is fit for man's use, and I know it is not fit to winter bees on if we have a cold winter, and they are confined to the hive long at a time. I have "been there" once, several years ago, when I lost quite a number with dysentery. An old saying is, "A burnt child dreads the fire." So I will steer clear of it for they consumed most of it in rearing brood, and I have had to feed granulated sugar syrup for winter stores. Then honey-dew stimulated them so that they built up very strong, and by keeping the syrup off you can guess what the result would be. It kept me with them picking up clipped queens and clipping queen-cells until about the first of July.

J. G. CREIGHTON.

Harrison, Ohio, Nov. 22.

Experience With "Chunk" Honey in Iowa

Commencing my second year in the bee-business, I had not yet acquired an extractor, and I was puzzled to know what to do with (to me) a large number of unfinished sections, and honey from a large number of boxes I had in the early spring put into trees. I think there were 25 of them, as well as some from frames from which I had taken the bees to unite them with other swarms.

At this time I knew nothing about "chunk" honey as a commercial proposition, but, as a boy, youth and man, I had eaten "wild" honey, the fruit of robbing bee-trees, and, remembering, I put all my broken combs and unfinished sections into quart Mason jars, "strained" some honey to fill up with, and had not a little bit of trouble selling the whole of it at 10 cents a pound—37 cents for jar and honey, the jar returnable at 7 cents—though I do not know that ever a jar was returned.

I do not *know*, but I think I shall neglect comb honey for chunk another season, principally because I am a hopeless sufferer from asthma, and I need to save steps. I can easier get 10 cents a pound for my honey that way than I can 12½ cents for comb; there is no loss due to worms or dirt; no extraordinary and expensive care required. I get pay for containers, while in selling extracted we give the containers away; no sections to buy, but little foundation, and the bees will go into the frames where they will hesitate to enter the sections.

There may be a problem of the honey candying; I may not make quite so much, or I might make more, but the item of less work appeals to me, and the coming season I shall give it a good trial. In the meantime I have to learn how to keep the queen out of the supers, for last season I was troubled; however, it was an abnormal season.

A last word: Advertising will sell chunk honey, just as it will everything else on earth. I said to prospective customers:

American Bee Journal

"This is just the same honey as in the sections, *and* you get a full pound for your money and pay less for the pound." I could have sold a thousand pounds in this little rural community. A. F. BONNEY.

Buck Grove, Iowa.

Bee-Stings and Rheumatism

It is a long time since I saw or heard of an old fogy who thought that bee-stings would cure rheumatism. About 30 years ago, when I lived in California, that old superstition was rampant. I hugged it myself for a number of years, but I got no relief. There is just as much sense in kissing the toe of an old saint as to let bees sting you to cure rheumatism. How fooled are those that are cursed with the bee-sting superstition. The most of them eat honey, and that is what gives them relief; that is what carries some of the poison out of their systems. The sting puts poison into their system; honey cleans the system. I don't mean to say that honey will cure rheumatism, but if used rightly, it will suddenly give relief.

I don't think there is a scholar in this world that thoroughly understands the tormentor of men—rheumatism. I have battled against it with all kinds of weapons for years, and changed climates several times, but all was for naught. But in the spring of 1903 we moved to the Bighorn Basin, and my tormented pet absconded, and it will be 7 years next spring that I have been free from the curse, and I consider that a pretty fair test. Now, what was it that made the curse let go of me? I can only give my candid opinion. Man is a conditioned being; rheumatism, whatever it is, is a conditioned something. The conditions for man can be changed so that he will be no more. The conditions for rheumatism can be changed so it will be no more. Now these may not be facts, but one thing, it is my candid opinion; let it be taken for what it is worth.

Another thing I want to mention. When we moved here from Northern Missouri, our shepherd dog was full of fleas and our hogs were lousy. The hogs never knew what it was to be without lice. When they got here the conditions were such that the fleas and lice could not live, and they were rid of them at once. Now there are people here that have rheumatism mostly in the feet and legs. Some think it is not rheumatism, but gout. I don't know as to that. Dr. A. F. Bonney gives a very good description of what rheumatism is. I wonder if he doesn't think there are other forms.

Cody, Wyo. J. D. KAUFMAN.

[It is interesting to note the differences of opinion on the question of bee-stings curing rheumatism. There seem to be two sides to it, just as on other topics. May be the truth will be known some day.—EDITOR.]

Poorest Season in Years

The honey season is ended. I secured 11 pounds of section honey and 200 pounds of extracted from 45 colonies, spring count, so I think the season was the poorest I ever experienced in the 15 years I have kept bees.

Manhattan, Kans., Nov. 1. J. L. YOUNG.

Next Year a Clover Year

The year of 1909 will go on record as one of the poorest honey seasons, very little surplus of inferior quality. The fall flow was a total failure, except a few days when bees worked on heartsease. A neighbor has lost 7 colonies from lack of stores. His bees are the Red Clover Italians, yet there was an abundance of red clover with us this season. Our Caucasians managed to gather a small surplus of clover honey, after the honey-dew was taken off. They have plenty of stores in their 14-frame hives, but I am afraid of the outcome, as I am sure they have more or less honey-dew in the brood-chamber.

I wish to say a word to the readers of the Journal: Look carefully to your bees; feed them candy or syrup, if possible; there are going to be many dead colonies next spring unless they are well cared for. The year of 1908 was a banner white clover year. The ground is thickly covered with young plants from last year's seeding. Therefore, if the weather conditions are favorable, 1910 will be a clover year also. So look out for the bees this winter, and next June they will keep us busy piling up supers.

The "Old Reliable" is growing both in volume and up-to-date information. We surely appreciate the Editor's efforts in bringing forth each month such valuable information from the pens of staff correspondents and others of wide experience. The Journal is a bee-paper in fact, published for the bee-keepers and maintained by the bee-keepers; no other departments to take up space on matters foreign to apiculture; no foot-notes to an ably-written article if said article does not concur with the views of the publisher. Surely, the Journal gives all a square deal. J. W. BLAKELY.

Cardington, Ohio, Nov. 22.

Book Notices

By LEWIS EDWIN YORK,
Supt. Public Schools,
MARTINS FERRY, Belmont Co., OHIO.

Almost Fairy Children.—By Caleb Lewis. Illustrated by George F. Kerr. Indianapolis: Bobbs-Merrill Company. Cloth. 289 pages. Price, $1.25.

This book is a good example of the story-teller's art with purpose that is more than mere enjoyment. There are 12 stories, and each is a gem. Mothers who are looking for something good to read to children from 6 to 12 years of age will find here what they want.

Happy School Days.—By Margaret E. Sangster. Chicago: Forbes & Company. Cloth. 271 pages. Price, $1.25.

This book is one of the most inspiring that has come from the pen of Mrs. Sangster. She handles practically all of a school-girl's problems in a way that is wholesome, interesting, and calculated to teach a sweet reasonableness. A delightful gift for any young lady in High School or Academy.

Boys of Other Countries.—By Bayard Taylor. Illustrated by Noble Ives and others. New York: G. P. Putnam's Sons. Cloth. 166 pages. Price, $1.25.

One would go far to find a better book than this. It has rare literary merit and makes a strong appeal to the best in its readers. High class is the only term applicable to this book. It never becomes wearisome. It will help many a youth to form a character that is altogether admirable.

Manuel in Mexico.—By Etta B. McDonald and Julia Dalrymple. Illustrated. Boston: Little, Brown & Company. Decorated cloth. 118 pages. Price, 60 cents.

This book is one of a series known as "Little People Everywhere." Of these there are 10 volumes. The illustrations are exquisite. The style of the writer is clear and perfectly suited to the purpose of conveying a lasting impression. This series is commended to those who are looking for books that appeal strongly to the eye and to the higher nature.

How the World is Fed.—By Frank G. Carpenter. Illustrated. New York: American Book Company. Cloth. 360 pages. Price, 60 cents.

Foods and Their Uses.—By F. O. Carpenter. Illustrated. New York: Charles Scribners' Sons. Cloth. 223 pages. Price, 60 cents.

These two books treat of eminently practical subjects in a manner that is helpful and satisfactory. They furnish information that is not usually found outside of a great encyclopedia, and they have the advantage of originality.

The Life of Alice Freeman Palmer.—By George Herbert Palmer. Illustrated. Boston: Houghton, Mifflin Company. Cloth. 351 pages. Price, $1.50.

In this book Prof. Palmer has done a great work for education, as well as for general culture and home life. He sounds the deep places in human experience. Mrs. Palmer was a student, high school teacher, college professor and president of Wellesley College. She wrought a great work for the womanhood of our country. This is one of the really great books of the past 25 years.

Samantha on Children's Rights.—By Marietta Holley. Illustrated by Chas. Grunwald. New York: G. W. Dillingham Co. Cloth. 318 pages. Price, $1.50.

Again Josiah Allen's wife has taken down her pen and ink from the mantletree piece and written a book: this time, instead of the rights of men, women and governments, she talks of the rights of children. She believes nothing is so much needed in parents as common sense and fair dealing. Samantha has had her admirers these many years. Her humor has caught the fancy of the people far and wide, and they have been moved by her pathos, and helped by her high moral teachings. She is entirely an American character, and one needs only to know her to appreciate her. Her books have sold by the millions.

Miss Selina Lue and the Soap-Box Babies.—By Maria Thompson Daviess. Illustrated by Paul J. Meylan. Indianapolis: The Bobbs-Merrill Co. Cloth. 220 pages. Price, $1.00.

The heart-catcher is out again. You might just as well hand over yours, for you cannot resist "Miss Selina Lue." Spinster, storekeeper, and general neighborhood manager, she is a very real, energetic, and delightfully amusing character. Her speciality is a row of soap-boxes in which she keeps a free day-nursery. The pages are running over with children always in comical trouble. If you are susceptible to the charms of genuine homely fun, and characters rich in simple reality, of wholesomeness, and optimism and infectious laughter, "Miss Selina Lue" will put you in love with the world.

☞ Any of the above books may be ordered through the American Bee Journal, 146 W. Superior St., Chicago, Ill. Send us 60 cents in addition to the price of any book as given, and we will credit your subscription to the American Bee Journal for one year.